Railway Age

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A Relic of the "Horse and Buggy" Days

THE advent of the automobile has revolutionized highway transportation and is making necessary many changes in long established practices for its control. Not the least of those affected is the grade crossing. Already the standard crossing sign is widely supplemented by the bell and the flashing light. One of the relics of the "horse and buggy" era, however, is the standard method of train whistling. At the recent convention of the American Association of Railroad Superintendents at Montreal this subject came up for attention, and representatives of numerous roads told of changes they were making in their practices to insure adequate warning, including the repetition of the standard two long, two short signal, the dragging out of the last blast until the crossing was reached or seen to be clear, etc. The outgrowth of this discussion was the passage of a resolution addressed to the American Railway Association recommending that rules 14L and D14L of the Standard Code be changed to read "two long, one short and one long blast." This recommendation is in keeping with the times. It has much to commend it and deserves careful and prompt consideration.

The I. C. C. Motor Transport Investigation

IN less than a month the Interstate Commerce Commission will begin its investigation of the progress that has been made in the development of motor transport in the United States. For two months, from July 27 to September 29, hearings will be held in all parts of the United States at which the railways, independent operators of common carrier motor vehicles and other interested persons and organizations will be heard. The character of the questionnaire sent out by the commission to the railways, which was described in the *Railway Age* of June 19, page 1910, permits of no doubt that the commission plans to make its investigation exhaustive. Whether all are completely aware of it or not, a revolution of no mean proportions in the transportation industry has been going on in the rapid climb of the motor vehicle to a position of importance as a carrier of persons and freight. Any ideas that the railways may have held in the past that motor vehicles as common carriers should be crushed out of existence have been generally abandoned. Instead railway officers are now studying and acting upon the problem of so co-ordinating railway transportation and motor transportation as to provide the best possible transportation service. Proper regulation of the motor vehicle as a common carrier will foster its development along proper economic lines. The Interstate Commerce Commission, as the most important transportation regulatory body, has apparently recognized this and has instituted its investigation with the idea of using the facts obtained as a basis upon which to rest any orders affecting motor transportation which Congress may see fit to empower it to issue in the future. The investigation promises to be of far-reaching importance to shippers and carriers of the United States.

Our Friend, Mr. Brookhart

THE railways do not need to feel concerned because Smith Wildman Brookhart is running again as a nominee for United States senator from Iowa. The retirement of Senator Cummins will be widely regretted because, while it can hardly be said he has ever been a "friend" of the railways, he has shown, unlike Brookhart, that he is fair minded and open to the influence of facts and reason. But the re-election of Brookhart to the Senate would not indicate sentiment in Iowa regarding railway regulation nor would it be without its advantages from a railway point of view. He appears to have been renominated, not because of his anti-railroad record, but because the people who voted for him resent the attitude of the administration toward proposed farm relief legislature. Furthermore, it is not improbable Brookhart is the best friend the railways have had in public life in the last ten years, excepting William Gibbs McAdoo. There was a good deal of sentiment in favor of government ownership until McAdoo became director-general of railroads. His policies and public utterances made government operation so odious that they killed most of the sentiment for government ownership and assured not only the return of the railways to private operation but its continuance indefinitely. Brookhart has rendered a similar service. In the years immediately after its passage there was much misunderstanding and misrepresentation of the Transportation Act and the regulation and management of the railways under it. Brookhart indulged in wilder and more reckless misrepresentations of that law, and of railway management and results under it, than anybody else. His misrepresentations afforded such a large target at which to shoot replies that nobody could miss it, and in consequence they actually contributed indirectly to a better public understanding of the facts. He was not the only radical who wanted to destroy the possibility of fair regulation of railroads. He was, however, so extreme in his radicalism and in the wildness of his statements and the illogicality of his arguments that he forced many other anti-railway statesmen to be more fair and conservative than they otherwise would have been in order to avoid being classed with him. Men of the Brookhart type never change. Therefore the railways need have no fear of him. If he should be re-elected he would continue to be one of their best friends for the same reasons and in the same ways that he has been in the past.

Improved Passenger Service

ALMOST daily come reports of improved passenger service on railroads throughout the country. Schedules are quickened; new and improved equipment installed; additional fast trains provided; elaborate excursions and reduced rate opportunities offered. Perhaps as significant a gage of the revived interest in catering to passengers as could be found was the exhibits of car seats at Atlantic City during the recent conventions. A comparison of the many new and improved designs shown this year as compared with those on view in 1924 gives some indication of the development in the railroad viewpoint in two short years. Just whether all the effort which the railroads are expending to bring more passengers to them will in the end prove highly profitable remains, of course, to be seen. However, many roads have already found their increased activity in this direction justified. The methods now being employed should have a thorough trial. If passenger service of any pretensions at all is to be offered by the American railroads, every railroad man will be glad to see it the kind of service which will draw an increasing—not a diminishing—patronage.

Railroad Electrification

THE announcement that an order for 7 electric locomotives has been awarded to the American Brown-Boveri Electric Corporation by the Pennsylvania and that the United Electric Light & Power Company has seen fit to place an order with the same company for a 160,000-kw. steam turbine-generator, a much larger unit than any in use at the present time, is bound to give rise to considerable speculation. It is the announced policy of the American Brown-Boveri Electric Corporation to promote railroad electrification in particular. It may be thought that the other large electrical manufacturers will regard the introduction of a new competitor with trepidation, but it may more properly be looked upon as one form of expansion in a rapidly growing industry. Whenever the subject of electrification is brought up it is always followed by the old spectre of system. Three railroads are now experimenting with motor-generator type locomotives. High voltage alternating current with induction motors is favored by some. Others have pinned their faith to high voltage direct current. Another has decided to use high voltage alternating current and to bank on the future of the series commutating motor, etc. A prominent railroad engineer in looking over one of the new motor-generator locomotives for the New Haven remarked that if all the railroads would decide on motor-generator locomotives, development costs would be minimized and increased production of one type would still further reduce cost of locomotive manufacture. While this statement is undoubtedly true, it is unfortunately as true for one type of locomotive as another. Railroad men have in the past resented the thought, real or fancied, that the manufacturers tried to dictate the kind of electrification system that should be used for a given installation. There are now three manufacturers in this country, all of which stand ready to make any kind of equipment that may be wanted. This places the problem of reducing the number of types up to the railroads. The need for electrification continues to increase slowly but steadily and it would appear that there is increasing reason for railroad associations to renew their study of this phase of the situation. At present interchange of equipment is not materially affected by variety of systems but as electrified mileage is extended this factor will probably become of increasing importance. It will, perhaps, never be necessary or desirable to try to make one system fit all conditions, but the future of railroad service in America will be helped by a concerted effort to reduce the number of systems to a minimum.

More Rigid Requirements for Portland Cement

A MOVEMENT for higher requirements for Portland cement has taken definite form in revised specifications prepared by Committee C-1 of the American Society for Testing Materials which call for an increase in the strength of standard mortar briquets. For many years the users of Portland cement have enjoyed the blessings of a period of standardization, which they have been well able to appreciate after unfortunate experiences with cements of uncertain quality in a preceding period of unregulated individualism. So general has been the acceptance of the standard specifications and so satisfactory has been the use of cement under these specifications, that there was a considerable period during which cement occupied a minor place in any discussions of the making of better concrete. This may have resulted in part, at least, from the fact that scientific investigations reported by the technical staff of the Portland Cement Association have confined their attention to the various other factors which influence the quality of concrete. However, in the last two or three years there has been evidence of a feeling that too great a degree of standardization is a bar against improvement and that the manufacturers could produce better cement than that required by the specifications. But, in view of the demonstrated advantages of standardization, it is unquestionably better to effect an improvement of quality by raising the standard requirements than to leave this entirely to the initiative of individual manufacturers.

The Train Porter

A RAILROAD officer from New York City, traveling recently in a region where train porters are employed on most of the more important passenger trains, observed that "the porter (negro) did most of the work." That is, he set the switches at meeting points, carried train orders (where they had to be carried) and did any little job that the conductor wanted done. Keeping the coaches clean and helping passengers did not by any means constitute the whole of his duties. In the government report of a serious collision of passenger trains some months since, where many men were at fault for the disastrous meeting, the record indicated (according to one acute observer) "that the train porter was the only man in either crew who was wide-awake and attending strictly to business." And now a more definite observation of the same kind comes from the Interstate Commerce Commission, in its report of a collision at Gamble, Ala., noticed on another page. And the reader will recall another recent collision report in which a colored fireman, who was unable to read, figured in the discussion of the question of responsibility for proper handling of train orders. These facts furnish their own commentary. Negroes who cannot read are sometimes gifted with remarkable memories, giving them a certain admirable efficiency; and it is natural enough to allow a young and ambitious sub-

ordinate opportunity to develop his powers; but Mr. Borland's observation that "the porter apparently was more interested in the safe operation of the train" than the conductor, is a serious word.

Standing in the Bread Line

THE work of the dining car stewards on many trains is more important and difficult now than ever before. While local passenger business has been declining within recent years, through passenger business has been growing. The number of passengers per through train has been increasing, and on most railways there has been as yet no corresponding increase in the amount of dining car service provided. The result has been an increase on well patronized through trains of the number of passengers who have to stand in line awaiting their turn to get into the dining car and in the length of time they have to wait. These general statements are not true as to all such trains, but observation on railways in all parts of the country indicates that trains as to which they are true are in a large majority.

Conditions which result in large numbers of passengers standing in line for long periods to get into dining cars are bad in themselves. Few passengers do such waiting without resenting the necessity for it and inwardly or outwardly criticizing the railway management.

This is one important respect in which the passenger service of American railways is inferior to that of European railways. The railways of Europe serve table d'hote meals. Before a meal is served an employee goes through the train and gives to each passenger who wishes service in the dining car a ticket containing the number of the table at which he will sit and the hour at which he will be served, the latter being fixed, when practicable, in accordance with the passenger's wish. All passengers served at a given time enter and leave the dining car together, and in consequence there is no waiting to get in.

On most American dining cars the meals are a la carte. The American wants to go and come when he pleases and to eat what he chooses. This renders it difficult, if not impracticable, to follow the European method of issuing dining car tickets. The Railroad Administration, under government control, tried the experiment of serving table d'hote meals, but they were criticized so much that railway officers decided a large majority of people did not want them. As long as a la carte meals are the rule in this country, and at every meal time there is a rush of passengers for the dining car, there will continue to be bread lines on many trains.

The discontent of passengers who have to wait can be moderated by dining car stewards who are skillful and tactful in performing their duties. A good dining car steward must be a diplomat as well as an executive. There are dining car stewards here and there who tactfully smooth the ruffled feelings of passengers who must wait, who try to seat them in the order in which they arrive, who take care promptly to seat a passenger who is alone when only one seat becomes vacant, to arrange for parties of two, three or four to sit together, etc. The dining car steward who does these things and otherwise shows he is solicitous to treat all passengers as well and courteously as conditions permit is a very valuable employee.

Unfortunately, one who travels extensively finds that some railways have many more stewards of this kind than others, and that on the railways as a whole they are by no means as numerous as they should be. There are many dining car stewards who do not have a smile for passengers, who are gruff in answering questions about when meals can be obtained, and who leave passengers to compete among themselves for seats, as they become vacant. Such stewards are a liability.

At the present time there is no problem of public relations that the railways can better afford to study than that of rendering dining car service more satisfactorily to their patrons. The question whether it would not be expedient to try again the experiment of serving more table d'hote meals and of issuing tickets in the European way seems worthy of consideration. Under present conditions, however, the dining car steward appears to be the key to the situation. Most railways need more competent stewards and need to give their stewards better training and supervision.

The human animal is especially likely to be sensitive and irritable when he wants to eat. If better opportunities for him to eat when he wants to cannot be provided on long through trains, more diplomats should be provided to placate him while he is standing in the bread line.

The Revolution in Passenger Business

SOME of the most difficult problems presented to railway managements at present arise out of the revolution that has been and still is occurring in passenger business. Two contrary influences are at work, one to reduce passenger business, the other to increase it. The influence tending to reduce it is motor competition, while that tending to increase it is the growth of long distance travel, especially in sleeping and parlor cars. During the five years ending with 1925 the former influence was the stronger, and in consequence the total passenger business of the railways steadily and largely declined. Within recent months the second influence has been the stronger, and there has been a small increase in total passenger business.

The general public naturally has little idea of the amount of study and effort to meet public demands, and at the same time render passenger service with any approach to reasonable economy, that these conflicting tendencies have required of railway officers. They have seen their local passenger business largely disappearing. What changes should they make in their train service to arrest this loss of business or compensate for it by reductions in operating expenses? Should they engage in the operation of buses on highways to hold and get business that otherwise would not go by rail? They have seen their through passenger trains becoming more crowded and getting longer and longer. What changes in train service and in equipment should they make to accommodate their growing through business? These are among the questions with which railway officers have been confronted and some of which thus far have proved peculiarly baffling.

The total number of passengers carried by Class I railways in the first quarter of this year was 26 per cent less than in the first quarter of 1920. On the railways east of the Mississippi river the decline was only 22 per cent, but on the railways west of the river it was 40 per cent. Total earnings from passenger business have thus far this year, shown an increase over last year. It is easy, however, to show, by available statistics, that local passenger business, which is especially subject to motor competition, has continued to decline. The surcharge on

sleeping and parlor car tickets is about 10 per cent of the regular rates charged for transportation in these cars. The revenue derived by the railways from the surcharge in the first four months of this year was $1,287,937 more than in the corresponding months of last year. This indicates that in these months the earnings—including the surcharge—derived from passengers traveling in sleeping and parlor cars was about $14,200,000 greater than in the corresponding months of last year. But the total earnings from all classes of passenger business showed an increase of only about $5,200,000. It would appear, therefore, that there was an actual decline of approximately $9,000,000 in earnings from passengers carried in day coaches. The total number of passengers carried was even less than in the early months of 1925. The small increase in total passengers carried one mile was due to a relatively large increase in the number of through passengers who traveled relatively long distances.

Statistics are not available which show accurately the total earnings derived by the railways from passengers who travel in sleeping and parlor cars, and from those who travel in day coaches. Investigations clearly indicate, however, that the surcharge averages about ten per cent of the regular fares paid by travelers in sleeping and parlor cars, and by assuming, as we have done above, that the total earnings derived from such passengers is eleven times as great as the surcharge collections it seems possible to estimate with approximate accuracy the total earnings the railways have derived since 1920 from transporting passengers in sleeping and parlor cars, on the one hand, and in day coaches, on the other. Estimates made in this way are given in Table I.

TABLE I

Year	Total passenger revenue	Revenue from sleeping and parlor car passengers (including surcharge)	Per cent of total passenger revenues	Revenue from coach passengers	Per cent of total revenue
1921.....	$1,154,058,118	$358,655,902	31.1	$795,402,216	68.9
1922.....	1,076,314,793	363,966,625	33.8	712,348,168	66.2
1923.....	1,147,577,634	412,469,816	35.9	735,107,818	64.1
1924.....	1,076,688,006	407,279,587	37.8	669,408,419	62.2
1925.....	1,055,913,165	438,255,763	41.5	617,657,402	58.5
4 mos. 1925	324,325,971	129,967,673	40.1	194,358,298	59.9
4 mos. 1926	329,518,630	144,136,080	43.7	185,382,550	56.3

These estimates indicate that there has been a steady and rapid increase in travel in sleeping and parlor cars, and a corresponding decline in travel in coaches. The increase in 1925 over 1921 in revenue from sleeping and parlor car passengers was about 22 per cent, and the decline meantime in revenue from coach passengers was about 22 per cent. In 1921 the railways got about 31 per cent of their passenger earnings from travelers in sleeping and parlor cars, and about 69 per cent of it from travelers in coaches, including commutation passengers. In 1925 they derived more than 41 per cent of their passenger revenue from travelers in sleeping and parlor cars and less than 59 per cent of it from travelers in coaches. In the first four months of 1926 they derived almost 44 per cent of their passenger revenue from the former class of passengers, and only about 56 per cent of it from the latter.

These statistics are an interesting commentary upon the efforts that have been made to secure legislation abolishing the surcharge. They show clearly the rapidly increasing demand for sleeping and parlor car service, and that the public believes this service is worth what it has to pay for it, including the surcharge. They illustrate the havoc that motor competition has wrought in earnings from local passenger business and why the railways are resorting to numerous experimental means for conserving their revenues from this business. They reflect credit upon the way the managements of the railways and the Pullman company have thus far handled the rapidly increasing sleeping and parlor car business, and also indicate why it has not always been possible to provide on popular through trains all the drawing rooms, compartments and lower berths for which there has been a demand, and why it has often been necessary on such trains for passengers to wait in line to get into dining cars.

No better illustration of the tendency of the American people to demand the best in service of every kind and of their willingness to pay for it could be afforded than the increase occurring in travel in those cars and trains on which travel is the most expensive.

Books and Articles of Special Interest to Railroaders

(Compiled by Elizabeth Cullen, Reference Librarian, Bureau of Railway Economics, Washington, D. C.)

Books and Pamphlets

The Cost of Living in the United States, 1914-1926, by National Industrial Conference Board, Inc. Explains and compares the three principal methods of measuring the variations in the cost of living, the Natl. Indus. Conf. Bd., the U. S. Bureau of labor statistics, and the Mass. Comm. on the necessaries of life. 233 p. Pub. by the Board, New York City. $2.50.

Decisions of the Interstate Commerce Commission of the United States (Valuation Reports) February-July, 1925. Volume 97, now available in book form. 862 p. Pub. by Govt. Print. Off., Washington, D. C. $2.25.

The Transit and Transportation Problem, by Harold M. Lewis. Engineering series No. 2, on conditions in New York. 129 p. Pub. by Regional Plan of New York and Its Environs, New York City. $2.00.

Periodical Articles

Adjustment of Disputes Between Railroads and Employes. Sketch of progress through Congress, and text of the Railway Labor Act, 1926. Monthly Labor Review, June, 1926, p. 32-41.

Are College Men Wanted? By A. W. Armstrong. What executives think of college men, and what college men think of executives, and why. The author is an employment manager. Atlantic Monthly, July, 1926, p. 12-20.

Early Advertisers and Their Ads, by Frank Presbrey. From Pompeii down. "Transportation advertising became common in the newspapers of the 18th Century in the shape of stage coach announcements. . . ." p. 303. World's Work, July, 1926, p. 296.

Equipment Trust Securities, by Elbridge Wason. Barron's, June 21, 1926, p. 5.

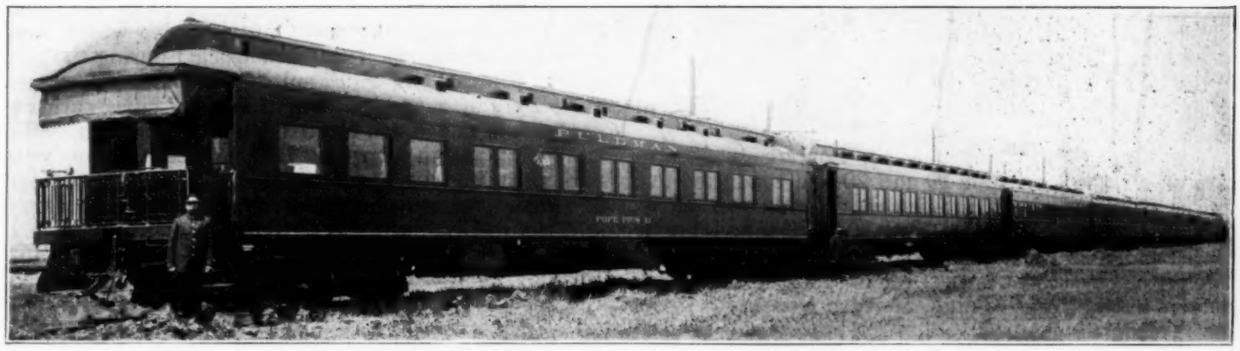
How Our Railroad Systems Grew, by Robert S. Henry. With the Nashville, Chattanooga & St. Louis as an example. Mr. Henry traces the growth of this system from the Nashville & Chattanooga chartered in 1845, giving the various reasons for the consolidations that have resulted in the present system. Nation's Business, July, 1926, p. 32-34.

Initial Causes of Rail Breakages and Methods Employed to Reduce the Number, by L. Sistek. Illustrated. Author is Headquarters Inspector, Czecho-Slovakian State Railways. Bulletin of the International Railway Congress Association, June, 1926, p. 502-506.

One Hundred Years of Railways, by Dr. Nicholas Pavia. Considers social effects of railways as well as the chronological order of railroad development. Translated from the Italian *Ingegneria.* Bulletin of the International Railway Congress Association, June, 1926, p. 552-567.

Rights of Employees to Their Inventions, by Lindley D. Clark. A review of the laws of this and other countries on this matter. Monthly Labor Review, June, 1926, p. 12-23.

International Transport Workers' Federation, by Lewis L. Lorwin and Jean A. Flexner. Historical sketch, with outline of present activities. The first of a series of studies of international labor unions. American Federationist, June 1926, p. 690-697.

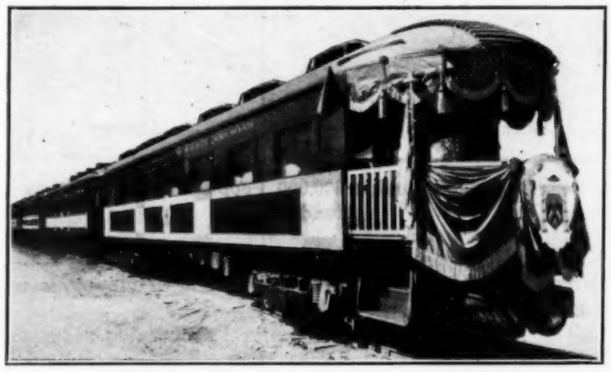


Cardinals Were Brought to Chicago from New York in a Special Red Train

Eucharistic Congress Presented Difficult Rail Problem

Four railroads called upon to transport 300,000 *people a distance of* 40 *miles in nine hours*

WHAT was probably the greatest one-day excursion passenger movement ever handled by the railroads in America, if not in the world, occurred on June 24, when 300,000 people were moved over four railroads from Chicago to Mundelein, Ill., a distance of 40 miles and return. This pilgrimage to the seminary at Mundelein was the culminating event of the Eucharistic Congress held at Chicago on June 21-24, an ecclesiastical celebration which brought 600,000 members of the Roman Catholic faith to that city from all parts of the world. While the great excursion to Mundelein was the most spectacular service rendered by the railroads in connection with this Congress, it represented only a part of the burden placed on them, since the enormous travel to Chicago from all parts of the United States and portions of Canada involved a special passenger train movement of great magnitude.



The Catholic Hierarchy Was Carried to Mundelein by the C. N. S. & M. on a Special Train Trimmed in the Papal, Cardinal and Eucharistic Colors

Many Special Trains Operated to Chicago Prior to June 20

With the exception of the Mundelein movement on June 24, the transporting of this crowd of pilgrims to Chicago for the Congress was conducted without taxing the facilities of the roads entering that city in spite of the fact that the entire operation was handled through the six stations used by all roads in the main section of the city. Approximately 200 special trains besides extra equipment on regular trains were operated by the roads entering Chicago to handle the people traveling to that city for the Congress.

The New York Central, in conjunction with the Michigan Central, carried 6,000 passengers, one special train being operated from New York, one from Buffalo, N. Y., three from Detroit, Mich., and one from Montreal, Que. Papal Legate John Cardinal Bonzano and his fellow cardinals were brought from New York in a special train of seven cars, all painted a bright cardinal red, a compliment by the Pullman Company to the Catholic hierarchy. The papal legate's own car had five rooms furnished with appointments bearing the cardinal's insignia. Every car in the train bore a name distinguished in Catholic history. These included Pius XI, Cardinal Bonzano, Cardinal Hayes, Bishop Quarter, Pere Marquette and St. Mary of the Lakes. The train left New York on June 16, and was given the right of way over the entire distance to Chicago, where it arrived on June 17.

The Pennsylvania operated special trains on June 19 and 20, carrying 550 people from Cincinnati, Ohio; 500 from Columbus, Ohio; 500 from Richmond, Ind., and other points enroute; 500 from Indianapolis, Ind.; 175 from Providence, R. I.; 100 from Dayton, Ohio; 300 from Louisville, Ky.; 500 from Grand Rapids, Mich.; and 100 from Newark, N. J. The Cincinnati and Dayton contingents arrived on June 19 and the others on June 20. Special trains also were operated from Philadelphia, Pa., and Ft. Wayne, Ind.

The Erie ran a special from New York on June 19, carrying two delegations: one of 150 Knights of Columbus and the other 135 pilgrims from Italy. A 10-coach train on June 20 carried between 500 and 600 passengers while a special coach party of 60 people left Akron, Ohio, on June 21. A party of 200 people from Columbus were received by this road from the Hocking Val-

ley at Marion. Extra coaches and sleepers were provided on all trains between June 19 and 24 to take care of the traffic from New York, Jamestown, N. Y., Akron, Ohio and from Columbus, via the Hocking Valley, in addition to points on the Erie.

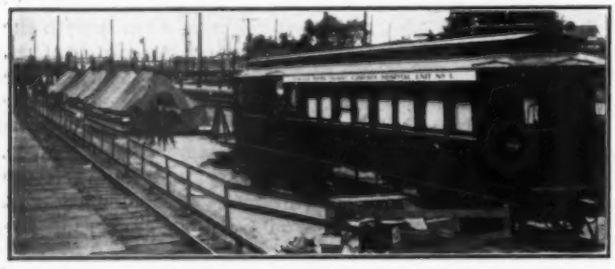
The New York, Chicago & St. Louis carried extra cars on all trains on June 19 and 20 and conducted five tourist parties. These included the Washington tourist party of 75 passengers from Buffalo, N. Y.; the Catholic tourist party of 175 passengers in eight cars from New York; the Byrnes-Colborne tourist party of 375 passengers in two trains of nine cars each from New York; the Toledo Eucharistic Congress tour party of 150 passengers in eight cars from Toledo, Ohio; and the Storey's Eucharistic Congress tour party of 275 passengers in 13 cars from Cleveland.

The Baltimore & Ohio carried about 2,000 people into Chicago on its special and regular trains from New York, Philadelphia, Pa., Baltimore, Md., Washington, D. C., Pittsburgh, Pa., Youngstown, Ohio, Akron, Ohio, and Wheeling, W. Va. On June 18 a train from Pittsburgh carried 200 people, on June 19 one from Baltimore carried 150, three from Washington carried 450 and one from Pittsburgh, Pa., carried 200. On June 20 one from New Castle, Pa., and Youngstown, Ohio, carried 300 people while one from these points on June 22 transported an additional 300.

The Wabash operated 18 special trains besides special car parties prior to June 19. These included ten from Detroit, Mich.; one from Philadelphia, Pa.; one from New York; two from New Jersey; two from St. Louis, Mo.; one from Texas; and one from Mexico. The Pere Marquette carried 400 or 500 pilgrims on its regular trains.

The Cleveland, Cincinnati, Chicago & St. Louis carried 4,500 people and operated five special trains. These included four from Indianapolis, Ind., on June 19, 20 and 21, and one from Cincinnati, Ohio, on June 19. In addition, a number of special parties were handled in sleepers, which were parked in the Illinois Central yards.

The Grand Trunk, in conjunction with the Canadian



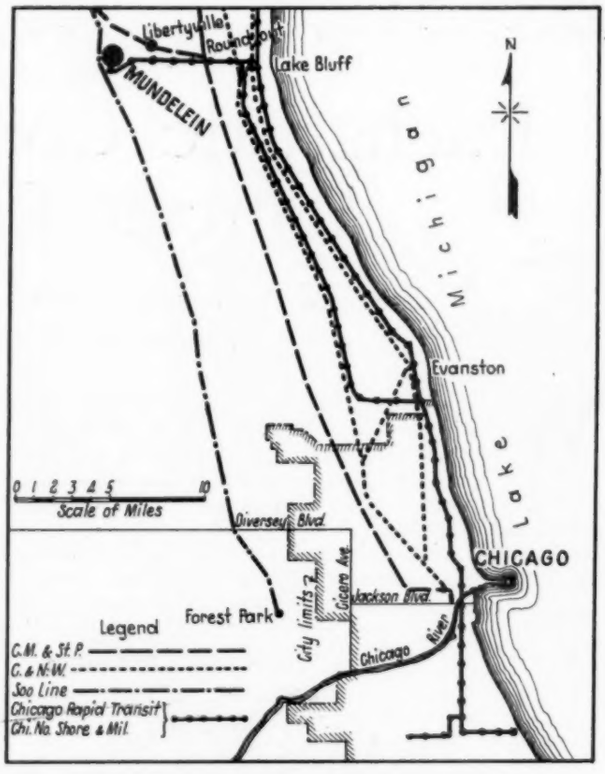
1,200 Cases of Hysteria Were Handled in the Two First Aid Stations of the C. N. S. & M.

National, carried between 5,000 and 6,000 people in 11 special trains. These included one from Saskatoon, Sask.; five from Montreal, Que., one from Quebec, Que.; one from Halifax, N. S.; one from Toronto, Ont.; one from Boston, Mass.; and one from Detroit, Mich.

The Canadian Pacific operated three special trains from eastern and western Canada. In addition extra equipment was used on its regular trains which carried a large number of passengers.

The Chicago, Milwaukee & St. Paul operated a special train from Seattle, Wash., and another from Tacoma on June 16. On June 24, special trains were operated from Milwaukee, Wis., Madison, Janesville, and Beloit; Rockford, Ill.; and Omaha, Neb.; which were parked at Libertyville (near Mundelein) during the day.

The Minneapolis, St. Paul & Sault Ste. Marie, on June 24, ran a special from the Twin cities carrying 350 people and a ten-coach train from Neenah, Wis., and points south carrying 1,000. These trains were parked during the day near Mundelein. The Chicago & North Western operated special trains on the same day from Milwaukee, Wis., Kenosha, and Racine; and Waukegan, Ill., and from points in Minnesota and Iowa. The Chicago, Burlington & Quincy ran a special train from the Missouri valley for people from



Four Railroads Carried 300,000 People from Chicago to Mundelein

Kansas City, Mo., and St. Joseph; Leavenworth, Kan., and Atchison; and two trains from the Twin cities on June 19.

The Atchison, Topeka & Santa Fe operated a special train of coaches from Kansas City, Kan., on June 19, which carried 300 passengers. In addition it handled three cars from San Francisco, Cal., carrying 75 passengers and two sleepers from San Francisco, received at Colorado Springs, Colo. Considerable business also was handled in extra cars on regular trains from Kansas City, Kan., and Wichita; Tulsa, Okla.; and Denver, Colo.

The Chicago, Rock Island & Pacific operated a special train from Los Angeles, Cal., which arrived on June 17. Other special trains came from San Antonio, Tex., Ft. Worth, Dallas and El Paso (including delegations from Arizona and Mexico); Kansas City, Mo. and St. Joseph; points in Oklahoma; and Leavenworth, Kan. In addition special car and train parties arrived from Rock Island, Ill., Moline, and Peoria; Davenport, Iowa, and Des Moines, on June 20.

The Chicago, Indianapolis & Louisville transported about 1700 pilgrims on special and regular trains. The specials included one from Indianapolis, Ind., and one

from La Fayette. The Chicago & Alton ran two specials from New Orleans, La., via St. Louis, Mo., one of which carried white passengers and the other colored. A third was operated from Little Rock, Ark., via St. Louis; a fourth from St. Louis carried Archbishop Glennon and party, and the fifth came from Springfield, Ill. Every regular train on this road was operated in two sections. Four of the specials, which arrived on June 24, were parked at the terminal at Harrison street for the convenience of the passengers.

The Chicago & Eastern Illinois operated a special train from Nashville, Tenn. on June 20 and one from St. Louis, Mo., on June 19. All regular trains from St. Louis and the south carried extra equipment. The Illinois Central ran 10 specials from June 19 to 23. These included one from Alabama and Georgia, one from New Orleans, La.; one from Waterloo, Iowa; three from Kankakee, Ill., three from Freeport, and one from Springfield. Fifteen cars were parked in its yards at 16th street and Indiana avenue during the Congress for the convenience of patrons.

A Crowd of 9,000 Persons in Large Stockade at Mundelein Waiting to Enter Smaller Stockades Prior to Boarding Homeward Trains

300,000 People Carried Successfully in 9 Hours

The most important achievement, however, was the transporting of 300,000 people from Chicago to Mundelein successfully, which was a particularly difficult problem because of the limited facilities. The latter point which is located 40 miles north of Chicago, is served by two railroads, the Minneapolis, St. Paul & Sault Ste. Marie, and the Chicago, North Shore & Milwaukee, a high speed electric line. The Chicago, Milwaukee & St. Paul, the double track main line of which runs through Rondout, six miles from Mundelein, has a single track line from Rondout through Libertyville, two miles from Mundelein. The Chicago & North Western, although passing eight miles from Mundelein, is crossed by the Mundelein branch of the Chicago, North Shore & Milwaukee at Lake Bluff. The Chicago & North Western has two double-track lines from Chicago to Lake Bluff, the Shore line over which suburban service is operated and the Skokie valley line, upon which run through passenger and freight trains.

The Minneapolis, St. Paul & Sault Ste. Marie handled 25,000 people; the Chicago, Milwaukee & St. Paul, 10,000; the Chicago & North Western, 40,000; and the Chicago, North Shore & Milwaukee, 225,000. The handling of these numbers was made possible by subdividing the city and routing the travelers from these sections by set rules over the nearest and most convenient transportation facilities available. In addition, tickets were issued according to parishes, certain tickets being assigned to certain trains.

The four railroads were further assisted by highway authorities, who designated certain roads for automobile travel to and from Mundelein, and thereby eliminated the use of many grade crossings. The nine highway routes laid out were able to handle 1,000 cars per hour in one-way travel or 288,000 people in 72,000 cars, each road terminating in a parking space at Mundelein. As a further aid in moving this traffic over the highways and as a precaution against grade crossing accidents the Elgin, Joliet & Eastern suspended all operations on its line between Waukegan and Lake Zurich. Men in the accounting department of the Chicago & North Western were assigned as special police, while the Minneapolis, St. Paul & Sault Ste. Marie detailed shop employees from several points including Fon du Lac, Wis., to guard grade crossings, with experienced roadmasters in charge of these men, supervising their work. The Chicago, Milwaukee & St. Paul also placed 75 or 80 special police in service. In all approximately 600 men were used to guard crossings.

Chicago & North Western Carried Eucharistic Traffic in Addition to Suburban

The Chicago & North Western handled passengers from the northwest side of the city to Lake Bluff, where they were transferred to the Libertyville-Mundelein branch of the Chicago, North Shore & Milwaukee, and carried to Mundelein. Although the Mundelein traffic was moved north at the same time that the suburban traffic was coming south and vice versa on the return, the transporting of 40,000 pilgrims was accomplished without delay. This was brought about by dispatching as many trains as possible over the Skokie Valley line which is normally used for through passenger and freight trains and as few as possible over the Shore line which is used for suburban service. All trains de-

parting from the Chicago terminal and Clybourn were operated over the Skokie Valley line, while those from stations north were sent over the Shore line. Twenty trains left the Chicago terminal at intervals between 3 a. m. and 9 a. m.; 10 of which left the Clybourn station between 3 and 6; 14 departed from the Ravenswood station between 3 and 9, and 7 were operated from Rogers Park between 3 a. m. and 7.55 a. m. These trains, 20 in all, some of which made two and three trips, consisted of eight and ten cars and were operated in shuttle service. To secure 240 cars required in this service, coaches were brought in from all parts of the system and dead freight movements were held out of various yards in the vicinity of the city to afford space in which to store the coaches.

Three extra locomotives were held at Lake Bluff to guard against engine failures. As a further precaution trainmasters and dispatchers located at other points on the system, who had been trained on the lines used for the Eucharistic travel, were brought in and stationed at points where any difficulty might arise. The entire movement to Mundelein over this road was accomplished without delay or concentration of people at any point. At Lake Bluff where a great deal of trouble was expected because of the transfer of passengers from both the C. & N. W. and the C. N. S. & M., no difficulty occurred due to the fact that eight-car electric trains were always on hand to remove the passengers as soon as they arrived. On the return enough trains were held at Lake Bluff to carry out passengers as soon as they were delivered.

Soo Line Operated on Single Track

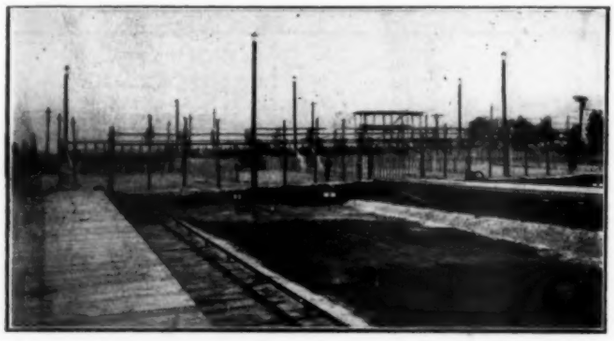
The Minneapolis, St. Paul & Sault Ste. Marie carried the passengers from the west side of the city and into Mundelein. As this road runs into Chicago over the Baltimore & Ohio Chicago Terminal from Forest Park, 11 miles west of the station, it was decided that the best results could be accomplished by operating trains from the Forest Park terminal, the traffic being delivered to the road by the Metropolitan Elevated and the Chicago Surface Lines. From Forest Park to Wheeling, 19 miles, the road is double-track, while from the latter point to Mundelein, 10 miles, it is single-track with passing tracks at Provinceville and Leighton. With this condition, no definite schedule was followed, the trains being moved as rapidly as they were loaded. Freight service was curtailed for a period of 24 hours and a dispatcher was stationed at Mundelein to handle the trains over the 10 miles of single track. The movement of this traffic was completed by the use of eight trains of equipment some of which made four and five trips. This was equal to 30 special trains of 15 coaches each. The number of passengers returning over this road exceeded that taken out by over 5,000, due to the accessible location of its terminal.

St. Paul Operated 12 and 15 Car Trains

The Chicago, Milwaukee & St. Paul handled the passengers from the southwest side of the city. As this road does not run to Mundelein, it was necessary for the passengers to walk two miles from Libertyville to the seminary. The St. Paul line is single-track without passing tracks from Rondout to Libertyville, a distance of three miles. It was therefore necessary to operate two trains out of Chicago on the hour and two on the half hour with five minutes between each train from six o'clock in the morning until twelve o'clock noon, so that the first two trains could pull into Libertyville, unload and return to Rondout by the time the second two trains had reached the latter point. This condition also necessitated the operation of 12 and 15 car trains. Besides furnishing trains, a first aid car with a doctor and nurses was stationed at Libertyville.

Chicago, North Shore & Milwaukee Handled the Largest Number

The balance of the city was served by the Chicago, North Shore & Milwaukee and the Rapid Transit Lines. Cars of the latter road were operated over its tracks in six-car trains from its two south side terminals at intervals of four minutes. These joined the main line at intervals of two minutes during eight hours, beginning at daybreak and were transferred from the elevated tracks to the Skokie valley route of the Chicago, North Shore & Milwaukee at Howard street on the north side of the city. The Chicago, North Shore & Milwaukee also operated cars of the elevated railroad



After Leaving Large Stockade in Background People Enroute to Trains Entered Small Ones

from Lake Bluff to Mundelein to carry the 40,000 people transferring from the Chicago & North Western and the 35,000 people that came from Milwaukee by way of the Chicago & North Western and the Chicago, North Shore & Milwaukee, which used its own equipment to carry traffic from points north of Lake Bluff. The Rapid Transit Lines operated 138 six-car trains—a total of 828 cars—from the south side of the city, and made the trip on a schedule of 2 hr. 11 min. At Lake Bluff 13 additional eight-car trains were operated to transfer the 75,000 patrons mentioned above.

The handling of this movement over the Chicago, North Shore & Milwaukee was facilitated by the completion of the Skokie Valley route on June 5 which made it possible to run the Eucharistic traffic over this line and its regular trains over the old or Lake shore route. However, additional facilities at the seminary near Mundelein were necessary. A six-track stub terminal was constructed, including three long platforms between the tracks and a large stockade for directing traffic to and from the train. In addition to the three platforms, a fourth or emergency unloading platform was constructed on the line south of the seminary, so that in case the terminal became congested, trains could be unloaded and returned. At Lake Bluff two loading platforms were built on the Chicago, North Shore & Milwaukee tracks and a passageway and stairs were constructed from the tracks of the Chicago & North Western to those of the Chicago, North Shore & Milwaukee. Concession stands and dining rooms were erected at both points where forces of the Chicago, North Shore & Milwaukee assisted in feeding the people.

The movement of this large number of trains also necessitated the installation of three temporary power

sub-stations, one at the terminal and the others between this point and the interlocking plant at South Upton, a distance of four miles. Over this section the drain was so great that it became necessary to operate the motors of the cars in series. Under this arrangement operation was continuous except at 3 o'clock in the afternoon when fighting interrupted the supply from the Public Service Company of Northern Illinois and operations were cut off for eight minutes until the damage was repaired.

To handle this traffic homeward large areas were marked off, so that the electric train passengers could be handled conveniently. At the approach to the terminal a stockade was constructed with a capacity for 9,000 people. This large area fed the people into six smaller stockades, each of which was able to hold 1,000 people. In these smaller stockades, 600 persons were permitted to enter at a time in order to facilitate the entrance on to the loading platforms and thereby avoid the danger of people being crowded onto third rails. Confusion and crowding was avoided by stationing men with megaphones on a bridge over the stockades who shouted instructions to the people and employees. On two occasions the crowd became uncontrollable and priests mounted the bridge and restored order. While waiting for trains entertainment was provided.

In spite of the large crowd no casualities occurred on the property of the Chicago, North Shore & Milwaukee, although the cars were so crowded that people were jammed on the platforms and hung on to the end of the trains. However, the Chicago, North Shore & Milwaukee treated 1,200 cases of hysteria, 3 broken legs and 1 broken arm in its first aid station at the seminary and at Lake Bluff.

The transportation committee of the Eucharistic Congress spent approximately one and a half years in working out plans for handling the people attending the Congress. The committee of 62 members, headed by Rev. M. J. Dorney, consisted of clergymen, representatives of the city and county police departments, engineers and railroad officers and included James Walker, consulting engineer acting for the Chicago, North Shore & Milwaukee; O. H. Harstad, general manager, and Joseph Caldwell, assistant general passenger agent of the Chicago, Milwaukee & St. Paul; B. E. Terpning, general superintendent and M. R. Leahy, general passenger agent of the Chicago & North Western; and C. L. Simpson, assistant division superintendent and B. E. Smeed, assistant general passenger agent of the Minneapolis, St. Paul & Sault Ste. Marie.

I. C. C. Recommends Competitive Bidding for Equipment Trusts

WASHINGTON, D. C.

COMMENDING the action of the Western Maryland in resorting to competitive bidding for the sale of $2,278,000 of 5 per cent equipment-trust certificates, Division 4 of the Interstate Commerce Commssion, in its report approving the issue, expresses the opinion that "conditions in the investment market are, and for at least some time to come are likely to be such that railroad companies raising capital in this way may now profitably adopt a policy of offering such securities to public competitive bidding."

The Western Maryland, according to the report, notified carious bankers of its desire to sell these certificates, inviting tenders therefor, and eight bids were received from bankers located in New York and Baltimore. They were sold to Kean, Taylor & Co. and Roosevelt & Son, of New York, and Brinkmann & Co., Inc., of Baltimore, the highest bidders, at 100,886 per cent of par and accrued dividends. On that basis the average annual cost to the company will be approximately 4.833 per cent. "The action of the applicant in 4resorting to this method for the sale of the certificates is commendable," the report says. Division 4 consists of Commissioners Meayer, Eastman and Woodlock, who handle cases on the commission's Finance Docket except cases of such importance that they are referred to the full commission. On the subject of competitive bidding the report, dated June 23, continues:

> Recent experience in connection with the sale of equipment-trust certificates leads us to believe that conditions in the investment market are, and for at least some time to come, are likely to be, such that railroad companies raising capital in this way may now profitably adopt a policy of offering such securities to public competitive bidding after the manner in which state, county and municipal securities are commonly sold. The reasons which lead us to this belief may be summarized as follows:
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> 1. These securities are of virtually uniform character, they enjoy a high degree of safety as to payment of principal and interest, and the prices that they bring are very largely determined by interest rates current for the best class of security. The relative financial strength of the issuing carriers has ceased to be an important factor in determination of price;
>
> 2. While it is probably true that in former days equipment-trust securities were largely taken by investment institutions (such as insurance companies, savings banks, etc.,) it is evident that they are now growing in favor with individual investors who have at times, of late, been willing to pay more for them than these institutions;
>
> 3. The investment market as a whole has grown very greatly in size in the years following the war. It now absorbs annually some billions of securities other than those of railroads. While it is true that industries other than railroads have taken and are taking by far the largest part of the new capital, it is also true that there is an ever growing demand for securities of the best class, in which railroad equipment trusts occupy a prominent place. It seems to us that the sale of these by public competitive bidding will tend to widen their market and thus produce capital more cheaply for the issuing railroads.
>
> It is because of this probable result that we favor such a method of sale at this time. We propose for the present no change of selling methods in the case of other railroad securities and are fully mindful of the considerations so frequently and forcefully urged in favor of the ordinarily existing relation of banker and railroad, and of the advantages to the latter which many believe result from a proper conduct of that relation by both parties thereto. We are concerned with the sale and distribution of railroad securities from the point of view of economy in the cost of capital to the railroads, to the end that the total burden of transportation shall be no larger than is absolutely necessary. It is our opinion, however, that the sale of equipment-trust certificates by public competitive bidding will be effective in so widening the market for these securities as to assist in the effective and economic financing of railroads by means of other securities such as may from time to time become necessary. Whether in the course of time it may come about that classes of railroad securities other than equipment trusts shall be susceptible of the same method of sale with economical results is a question that need not now be considered.
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> By our order in *Ex Parte No.* 54, 56 I. C. C. 847, we issued regulations as to transactions under the Clayton Anti-trust Act. A number of sales of securities have been effected under the procedure therein prescribed. It is thought that the procedure under these regulations may well be followed also in the disposition of equipment-trust certificates.

In Line with Chairman Eastman's Views

Chairman Eastman of the commission has on several occasions dissented from reports approving issues of equipment trusts on the ground that competitive bids had not been asked and has criticized the "monopoly" which he said had been created by certain large banking houses. In one or two cases involving bonds especially well secured the commission has required competitive bidding.

Transportation and the Car Man*

The importance of selecting the right kind of men in both departments—Properly training them and insuring co-operation

By D. F. Stevens
General Superintendent, Baltimore & Ohio, Cleveland, Ohio

THE business of a railroad is transporting freight and anything in the conduct of transportation that doesn't bear on that subject has very little standing with the executives of the American railroads. As things pass over their desks for their approval it is always this question that the executive has in mind: "What influence will this have on transporting freight?"

The second factor that they are interested in is: "How cheaply can a ton of freight be transported one mile," or a hundred miles or whatever term the individual road uses as an indicator.

That is all there is to railroad. The whole science (and railroading has become a science) is based on those two questions: the question of the volume of business that you move and what does it cost you to move it? The man in any department who can cheapen the cost of transportation is the man whom the railroads are looking for—to be able to cheapen it and at the same time keep it efficient.

Years ago I was fortunate enough to be secretary to probably the greatest transportation man that the world has ever seen—transportation man and pioneer—James J. Hill. I put in about three years with that gentleman, or, as the expression goes, I put in 30 years in three. He was the man who first commenced to get together figures and find out what his railroad and each department of his railroad was actually doing.

I recall one time we had a gentleman on the car who was a railroad man in England, I think a director, who didn't have very much to do, and he said to Mr. Hill, "In America, how many cars do you feel you should haul to a train?" If any of you have ever seen the old gentleman with his long hair down his back and his cock-eye, you can better appreciate this. He looked over at this Englishman and said, "Why, my dear sir, not any more than you can get between the engine and the caboose."

The car game in America is so vastly different than it is in any other country, unless it be Canada, that the jobs of car men in England or in any foreign country you may care to mention are entirely different. Again, as it is in the size of the train, it is a question of volume. For instance, you could put a half train of the average English or French cars into one of our big box cars and have room to crawl in after it yourself. But gradually, I think largely, perhaps, as a result of the recent late unpleasantness on the other side, they are commencing to enlarge their cars and take up American standards in the maintenance of their equipment.

We in America think we do big stunts. We are inclined to be pretty well satisfied with what we do. We rather pride ourselves that anything we do is just a little bit better than anyone else can do. There runs through my mind a little incident that transpired in Japan, I think, last year. Do you know that the Japanese railroads entirely changed from the old link or long draft arms, as they called it, to the present automatic coupler in 24 hours? On the face of it that seems like a wonderful thing. I don't think we could have done that in this country, but when you stop to think that all of the railroads and cars in Japan when put together wouldn't be the equivalent of one of our medium sized trunk lines you get the idea that it wasn't quite as big a job as you would at first think. But it was the biggest thing that had ever been done in Japan, and it was so big that they put six men to work to write a history of the whole transaction and file it in the archives of their state historical library. It was so great an achievement in Japan that a friend of mine over there sent me one of the books and more or less bragged about what they had done, giving the impression that a thing like that couldn't be done in the United States because we weren't sufficiently efficient to do it.

One of the unusual positions that I find myself in sometimes talking to different groups of men is the fact that I think I am one of the few men in the United States who has ever been a car foreman and a yard master at the same time. It is from that angle that I want to consider certain facts—both from the angle of the car foreman and that of the transportation yard master.

Closed Shops Needed for Car Rebuilding

One of the things I want to call attention to is the spot system of repairing cars.

The spot system was introduced on our railroad two or three years ago, by J. J. Tatum, general superintendent, car department, who conceived the idea from the building of Ford automobiles. It is a story of repetition, of a man doing the same thing every day in the same place.

The car department work, as I see it, is divided into two distinct classes: First, what I term construction work, and, second, straight transportation work. The construction work is, to technical car men, probably the most interesting.

There is all the difference in the world between the finished car plant with a roof over it, with proper crane facilities, runways, etc., as compared with many of the construction car shops that we have on railroads in the United States. As times goes on there are two things that are going to happen to the open car shops. This open type of car shop, in my opinion, is so manifestly uneconomical that I predict within 15 years it will either have been abandoned or closed in. The comparative figures for the two types of plants show up so much to the disadvantage of the uncovered shop that it is an economic crime for railroads to continue them. Today the big factor is the initial expense. I think you will see in the next five years a marked improvement in that

* Abstract of an address before the Cleveland Steam Railway Club, June 7, 1926.

respect. We have figures on our own road which show that, economically, we can't afford to keep an uncovered car shop.

One of the big factors in a construction car shop on a railroad is its location. The railroads today are made up of groupings of small, old railroads that were gradually absorbed by the larger railroads. In the little old country railroad that was absorbed the car shop was entirely adequate for its needs in those days and as a consequence many of our railroads today have a lot of these antiquated, obsolete car shops. It is quite a problem to know what to do with them.

A thing that is very important in the location of the construction car shop is whether or not its production is fitted for the territory it serves. For instance, you may have an old wood car shop in a territory where conditions have so changed that the demand for cars is for steel open tops, or you may have the reverse condition.

One of the things that we transportation men think about a lot in connection with either construction car shops or transportation work from a car department standpoint is the switching. One of the first things to be neglected by a yard master (I speak feelingly as a yard master) when he gets into a jam is to neglect the car shop or car yard. As I look back on my days as a yard master it is my feeling today that I could get by with that better than I could anything else and I probably would go around and try to fix the car foreman up and stave him off long enough so that I could get him fixed along about 11 or 12 o'clock after he lost about half of the productivity of his shop for the day. I couldn't do that with the public, but I took the money out of the railroad's pocket.

Another thing that is very necessary around a car shop, as I see it, is a wide-awake man in charge of stores. A storekeeper has to be something more than just a man who can send material up to you. He has to be a man that you can sit down with and figure out what your wants are going to be 30 or 60 days ahead and who will get material to you by the time you commence working on a certain class of equipment that is ahead of you.

Select Good Men; Then Train Them

I want to talk just a minute about the great importance of personnel based on the hiring of men. Everything else being equal, it is our first duty in this country to hire men of as high intelligence as we can get. I believe that by doing that we elevate the particular department for which we work. Men get into your ranks in the car department just as they get into train service and engine service and, if you please, into the official family, by the stress of the times. We go out and take men that we are ashamed of after the stress is over when we have to explain to the man higher up why we can't put out pretty close to 100 per cent with that kind of men.

You can't do very much with the man. He is doing the best he knows how. The fault doesn't lie with him, but with you and me. If I leave no other thought with you I'd like to leave just this one: Devote more time to the men you hire and after you have hired a man who measures up to the standard you think necessary, don't be afraid to sit down with him until he gets the first steps. We too often throw men into jobs and expect them to swim and they don't swim.

I want to relate an experience which occurred to me while I was superintendent at Newark, Ohio. It isn't about a car man but it will illustrate the point. After I had been there two or three months, a discipline case came to me one day. An engineer had broken in two and with about 10 cars had run 17 miles between side tracks and left the rear end of his train, tying up the railroad half of the night. It was a single track railroad. He then came in and threw himself on the mercy of the court and had no explanation to offer. Of course, there was none.

One of the questions I noticed in the investigation was, "Didn't you know that with 10 cars you didn't have 85?"

He said, "No."

The discipline that was put up to me for this man was to dismiss him. I went home and I read his record over, I guess, four or five times. After I had spent an afternoon reading that thing back and forth there were three little letters that stuck out so plainly that I knew where this man's trouble was, or thought I did. It was A-I-R. This man had a record 6 pages long with every possible thing in it that you could imagine: air, air, air, air, all through it.

Monday morning I sent for this man. He came in. He was a very decent looking chap, looked like an educated man, as we railroad men are educated. I asked him probably five or six simple questions on air. Gentlemen, after 28 years of running a locomotive all he knew about air was that if you did this, you got that, and if you did that, you got something else.

When he answered those questions I said to myself, "Bill, you are not going to be fired." I sent him home. I told him I would let him know what we were going to do to him in a day or two. Then I sent for the road foreman of engines on that division and the air brake inspector. They had his records and they were all fine; there wasn't a thing on any of them that you could take exceptions to. We had some of the trips that the road foreman had made with him and they were all good.

I sent for this chap again, asked him a few more questions, and found out that he knew nothing about air at all. So I said to him, "Bill, I don't believe you are to blame for this thing, but you are the goat. The officers on this division are responsible for what has happened to you. Now before you can go back on your engine you are going down to Westinghouse and you are going to stay there until you get a card from a friend of mine down there stating that you are a fit man to run an engine. Then when you get through you are going to our air brake inspector and you are coming back with an o. k. from him. Then I am going to humiliate the road foreman of engines by making him give you an air examination and then you can go back to work." He did those three things and went back to work eight years ago. Today he is the best engineman on that division, and has never had a mark on his record since. He is a wonderful air handler and a good train handler. There wasn't anybody responsible for his ten pages of record but the supervisors on that division. Let that sink home.

One of the things that we have done with success on car construction work is setting one car shop up against another. They all know it and yet a man has a certain amount of pride in his own organization. It is surprising to see at times of that kind how close the larger shops will run to each other in the percentage basis. I think that is a good thing to do.

One of the things in construction shops that I don't think we follow as closely as we should is the lost motion in getting material. I have always felt that we could keep sufficient common labor continually to keep

the material up to the man who is producing. This game today not only in the car department but all over is rapidly developing into a question of dropping out the non-producers and supplanting them with producers. That again gets back to the question of economy of operation.

Don't Be an Office Foreman

I want to pass here to the transportation game. We have two kinds of foremen in our live transportation yards. We have the office man and the outside man. I can pretty nearly tell now when I walk into a yard the character of the foreman before I see him. I think anybody can do it.

I will never forget the advice that my father gave me when I took my first official position as train master. He had been an active operating man for some 40 years. He said to me, "My son, remember that an office serves two purposes. It is a place where the clerical force works and it is a place to store records. Keep away from it. A man who is in charge of the transportation yard belongs in the yard." You can't run a transportation yard with a lead pencil and a steam heated office.

In organizing a transportation yard, we first want to know how many men we need. We want to know, not particularly for economical reasons, but we want our men properly placed. We want them properly distributed as to classifications: inspectors, light repairmen, air men, etc. I have seen yards just like locomotive shops, where you would have a super-abundance of inspectors and then not enough light repairmen to take care of the work after you got the tags on them. You find yards where there are too many inspectors and light repairmen, and not enough air men to get your trains out of town as they should go. Your head mechanical officer can't fix that. That is your job. It is surprising to find the lack of balance there is in that respect.

Another thing we want to do in our big yards is to have the men properly distributed as to location. You will find some yards two men more than they need at one end and three or four miles away at the other end there is a yard with two or three less men than are needed. There is a job for supervision.

Get Acquainted with Your Night Forces

There is another thing that I would like to suggest, if you don't already do it. Many of these things are old, of course, and you probably do the most of them. Drop in and check at irregular hours, not particularly to spy on anybody. You have no hesitancy in having anybody come into your office or your yard. Drop around and see the night man once in a while. He will be glad to see you if he is the right kind of a fellow and if he isn't the right kind of a fellow you don't want him. I believe I know more night car inspectors on the Baltimore & Ohio system than I do day men. As a rule they are pretty good fellows.

When you find a man that isn't quite up to the mark he should be educated. I don't believe though, that you can make a good man out of a shanty lounger. Our business is big enough in this country today that our men can keep busy eight hours.

One thing that interests transportation men is increasing the number of light repairs that are made in trains without being cut out. We are going after that more and more every day. Our A inspection, as we call it on our railroad, has done much for that. The proper selection of the car for the load before it is placed for loading is permitting us to do with our cars what we have done with our locomotives for some time. We are working on the theory that our cars can run as far as our locomotives without changing them. I put out instructions recently on some new locomotive runs that will take the locomotives 489 miles in both directions and the trains with them. The New York Central has done a lot of that. Some of the western roads do it. I dare say that most roads have done something with it, but we are planning on our line to fix the mechanical equipment so that with these particular trains and particular locomotives we can run 489 miles without pulling a pin and we credit that to our A inspection.

The greatest single help that a car man can get in a transportation yard is from the yard master. It doesn't make any difference how well you know the train master or how well you know the superintendent. The man you have to live with and who can harm or help you is the yard master who does your work or doesn't do it. Try to get along with him peaceably as long as you can but when he commences to affect you then it is time to go to somebody else.

Locate the Terminals from Which Hot Boxes Develop

One of the things that a very close check should be kept on from a transportation standpoint is the number of defective cars cut out on road trains at a short distance from an originating terminal. You would be surprised to find how it will centralize on certain yards. Some of the worst cases that we have are in yards where we have the greatest forces and the lightest commodities to haul.

I have seen some exaggerated figures to the effect that it costs $47 to set off a car and pick it up. The figures that I can make show roughly $25. That includes the stopping of the train, the switching and setting off of the car, the wire work to wire in, the clerical work, getting the man, sending him to the place to repair the car, getting the material, sending the man back and the stopping of the next train to pick the car up.

I have mentioned our A inspection. I don't think there has been anything done on our road from a transportation standpoint that has so helped the movement of trains without interruption as the improved inspection of cars before they are set for loading.

Greenwich St. Inland Station of the Erie at New York

The Tuscan Columns Across the Main Entrance Add Much to the Attractiveness of the Station

New Station Facilities Provided at Baton Rouge, La.

Illinois Central system spends over a million dollars to meet the needs of a growing southern community

THE general growth of the South and the policy of the Illinois Central system in keeping up with and stimulating such growth are reflected in the new passenger and freight station facilities constructed by the Yazoo & Mississippi Valley railroad, a subsidiary of that system, at Baton Rouge, La., at a total expenditure of somewhat over a million dollars. The passenger station is one of the most attractive and adequate stations in the South, serving a city the size of Baton Rouge, which has a population of approximately 35,000. The freight station is of modern design and adequate capacity to handle the increasing freight business at Baton Rouge for a number of years in the future.

Canopies and Sheds Serve the Station on the Track Side and Ends

The passenger station replaces a small one-story brick structure which was constructed in 1904 and which, while still in serviceable condition, was totally inadequate to meet the needs of the growing community. The new freight station takes the place of a small two-story brick building with a one-story board and batton frame wareroom extension. The immediate causes for the outgrowth of these facilities are attributed to the development of the Standard Oil Company's refineries at Baton Rouge, which are among the largest in the world, and the growth of the wholesale business, which has made the town the distributing center for large sugar-cane and cotton growing districts.

The new passenger and freight stations are located along the Mississippi river water-front opposite the central business district. One of the significant features of the location of the passenger station, which is somewhat north of the old station site, is that the new building faces the state capitol building which is situated one block east and on somewhat higher ground. The sloping ground between the capitol and the station has been developed as a small park with flower beds and shrubs which materially enhances the appearance of the station approach.

The Passenger Station

The new passenger station is a brick and stone structure, 403 ft. long by about 40 ft. wide, lying lengthwise of a city block. The building consists of three units, a center section with two wings which are connected to it by arcades. The center section, which is about 233 ft. long, is a two-story steel frame brick wall structure. This section is occupied on the first floor by the station proper and on the second floor by division offices. The wings are one-story brick walled units without steel framing. The entire structure is supported on a creosoted pile foundation. The north wing is occupied by two lunch rooms and a kitchen, while the south wing is divided into two separate rooms for the handling of baggage, mail and express. The exterior walls of the

entire building are faced with reddish-brown full range mat face brick and are trimmed with Bedford stone which is used throughout for the base courses, sills, copings and other ornamentation.

The dominating feature of the architectural treatment of the building is the row of large Bedford stone columns of the Tuscan order spaced uniformly across the front of the station, giving prominence to the main entrance which faces the town and the state capitol building. Another feature which adds materially to the attractiveness of the station is the effective placing of the windows and doors, the use of casement windows and large transoms on the first floor in the main building and a variation from this in the use of double hung windows on the second floor. A further artistic touch is given to the building through the use of casement windows with semi-circular segmental transoms in both the lunch room and the baggage and express room units.

The station is served by a northbound and a southbound passenger track which are located next to the building on the river side, and a stub suburban track at the north end of the station for train service to the oil refineries. A northbound and a southbound freight track at the station are located between the passenger tracks and the river, where freight traffic does not interfere with the public or the station facilities.

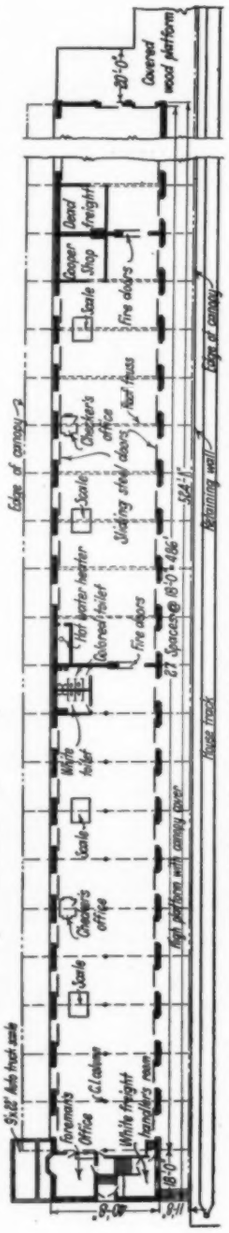
Brick platforms with concrete curbs serve all sides of the passenger station and the three passenger tracks. The platforms on the ends and the track side of the station are covered with a canopy which extends for 442 ft. along the face of the building. In front of the station proper the canopy consists of a structural steel frame with a corrugated wire glass roof supported by hangers from the wall of the two-story portion above. The canopy beyond the two-story section of the station and the butterfly sheds, serving taxicabs, the suburban track and the island platform between the northbound and southbound passenger tracks, are of frame construction with composition roofs and are supported on cast iron columns.

Simplicity Marks Furnishing of the Interior

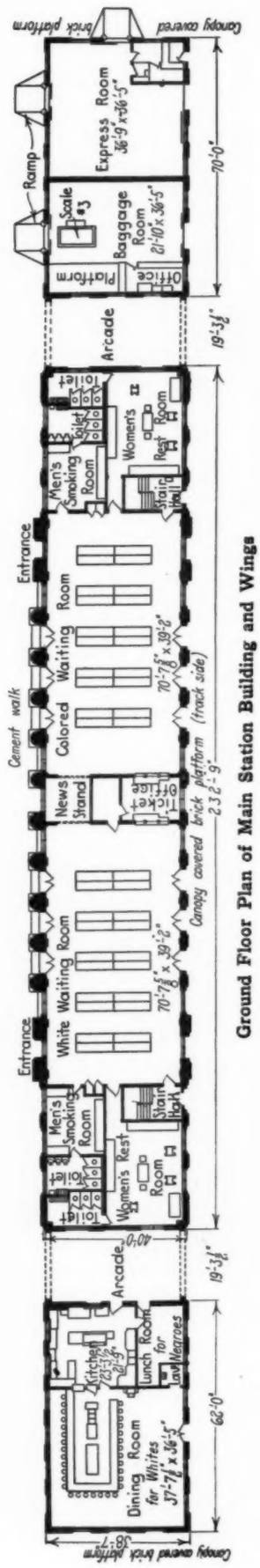
The interior of the central unit of the station on the first floor is symmetrical about the center of the building, one end being assigned to white passengers and the other to colored passengers. The central portion of the floor space is occupied by the ticket office and a newsstand. On each side of the ticket office are the two main waiting rooms, 70 ft. long. At the end of each waiting room space is provided for a women's rest room, about 29 ft. by 21 ft., a men's smoking room about 18 ft. by 16 ft., toilet facilities for men and for women, each occupying a space about 9 ft. by 16 ft., and a stair hall to the second floor.

The waiting rooms have ornamental plaster beam ceilings and terrazzo tile floors, laid on a concrete base. The walls and ceilings are finished in plaster and painted a light cream color. In order to protect the lower portion of the walls from abrasion and to facilitate cleaning, both rooms are provided with a dark buff art marble wainscoting about 7 ft. high. Lending contrast to the light interior finish, the trim throughout the rooms, and the settees are oak with a dark finish. The men's smoking rooms are fitted with settees, while the women's rest rooms have settees, a table, a lounge and several comfortable chairs.

The north wing of the station building is occupied by a kitchen and separate lunch rooms for white and colored passengers. This unit is separated from the main building by an arcade which allows access to the station platform without the necessity of going through the



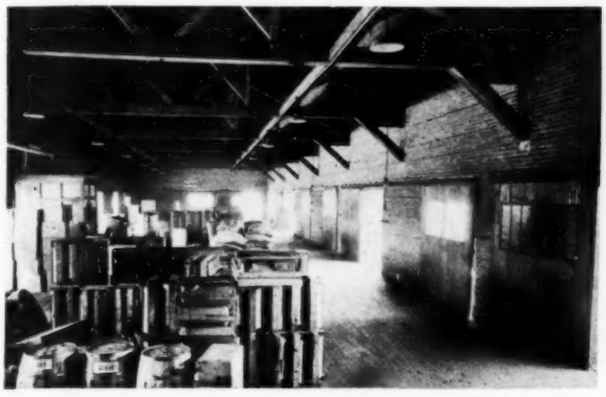
Floor Plan of the Freight Room in the New Freight Station



Ground Floor Plan of Main Station Building and Wings

station building. The main portion of the north wing, which has a floor space of 59 ft. long by 36 ft. wide, is occupied by a large lunch room for white passengers. This room occupies the width of the building and is about 38 ft. long. One-half of the room is occupied by a U-shaped lunch counter while the other half is fitted with tables and chairs for table service. The interior finish of this room is similar to that in the waiting rooms, however, with the addition of curtains hung about the casement windows. The remaining area in the north end units is divided between the kitchen and a small lunch room for colored patrons.

The south wing of the station building has a floor



The Freight Room is Well Lighted and Has Adequate Floor Space

space 67 ft. long by 36 ft. wide, which is divided by a brick wall into two separate units, one 30 ft. long for a baggage room, and the other 37 ft. long for an express room. Both of the rooms have brick walls, beaded wood ceilings and factory grade maple floors on a concrete base. Each room has a large entrance on each side for the passage of baggage and express trucks and the entrances are fitted with both wood and wire mesh sliding doors. The entire second floor of the main station building is occupied by the division offices.

The station building is electric lighted by a semi-indirect system. Steam heating is supplied from a small boiler house located across the tracks on the river front and about a block south of the station. This building, which is 33 ft. by 55 ft. in size, is constructed of mat face brick to match the passenger station and the freight station buildings.

The Freight Station

The new freight station is located about four blocks south of the passenger station on the east side of the tracks and is constructed of full range mat face brick with concrete trim. The building is 524 ft. long by 40 ft. 8 in. wide and has a canopy covered high wood block platform 11 ft. 8 in. wide which extends the full length of the building on the track side, and a canopy, but no platform, on the teaming side. The north end of the building for a length of 200 ft. is a two-story structure while the remaining 324 ft. is only one-story high. Both of these sections have pitched slate covered roofs supported by timber trusses.

The entire main floor of the building is used as a freight room with the exception of an 18 ft. section across the building at the north end which is used for a stairway, locker room and an office for the freight house foreman. The freight room is divided into three distinct sections by brick fire walls with fire doors and each section is equipped with a standpipe connection and hose for use in event of fire. The flooring throughout the freight room is square edge and end matched maple on a two-inch yellow pine sub-floor, which in turn is nailed to sleepers embedded in a concrete base. The freight doors serving both sides of the house are the sliding corrugated iron type with wire glass windows.

There are 27 of these doors on the track side of the building and 24 on the teaming side. A door at the south end of the house leads to a covered platform which forms a 132 ft. extension to the floor of the freight room for handling heavy or bulky shipments. The doors in the sides of the building are spaced opposite each other, except where the wall space opposite four of the doors on the track side has been utilized for a cooper shop, a dead freight room, toilet rooms and a small hot water heater room. Three small checkers' offices and six floor scales are also located along the teaming side of the building, but these are placed between the doors so as not to interfere with trucking. The entire second floor of the freight station is used for the offices of the freight agent and his force. The office portions of the freight station, toilet room, cooper shop, checkers' booth, etc., are heated by steam supplied from the station facilities boiler house, but the freight room proper is unheated.

The freight station is served by three house tracks, located parallel with the west side of the building, a short spur track leading to an automobile platform and several team tracks. The outside facilities include also a standard auto truck scale, located just outside the freight house foreman's office and a pillar crane which serves two of the spur tracks.

The construction of the new facilities at Baton Rouge necessitated a considerable number of track changes, the laying of about nine blocks of street paving, the removal

The Second Floor of the Freight Station Provides Spacious Office Room

of overhead telephone lines which were placed in conduit under the street and the construction of a 3½ ft. by 5 ft. reinforced concrete box storm sewer for a distance of five blocks to a connection with the city sewer.

The entire project at Baton Rouge was carried out under the general supervision of F. L. Thompson, chief engineer, and since January, 1925, vice-president of the Illinois Central system, and the design and construction of the buildings were under the direct supervision of Frank R. Judd, engineer of buildings. The actual construction work was in charge of R. A. Blake, assistant engineer, reporting to P. Aagaard, general building inspector.

New Board of Mediation Appointed

WASHINGTON, D. C.

THE Senate Committee on interstate commerce, to which was referred the President's nominations of the five members of the new Board of Mediation established by the railway labor act, on June 28 decided to recommend confirmation of the appointments by the Senate and on June 30 the Senate confirmed all five. At the same time the committee suggested some work for the new board, in addition to that which is expected to devolve upon it soon after it becomes organized in connection with pending wage increase demands, by reporting out the resolution introduced some time ago by Senator Shipstead which had proposed a senatorial investigation of the Western Maryland strike, with a recommendation that it be referred to the Board of Mediation. The board is to have its office in Washington.

S. E. Winslow

E. P. Morrow

Carl Williams

G. W. W. Hanger

Hywel Davies

The members of the board, as previously announced, are as follows:

Samuel E. Winslow, who was chairman of the House committee on interstate and foreign commerce in the Sixty-Eighth Congress, but who did not run for re-election in 1924, had been a member of Congress from the fourth district of Massachusetts for eight terms. He was born April 11, 1862 and graduated from Harvard University in 1885. He has been engaged in manufacturing for many years. He was appointed for a term of five years.

Edwin P. Morrow, who was appointed for a four-year term, has been a member of the public group of the Railroad Labor Board since 1924. At the time of his appointment he was just completing a four-year term as governor of Kentucky. He was born at Somerset, Ky., on November 28, 1878, and was educated at St. Mary's College, St. Mary's, Ky.; Williamsburg Institute and the Cincinnati Law School, from which he was graduated in 1900. He became a member of the law firm of Morrow & Morrow at Somerset, and in 1907 was Republican candidate for governor of Kentucky; from 1911 to 1915 he was United States district attorney for the eastern district of Kentucky, and he was nominated by the Republican caucus for the United States senatorship in 1912. In 1919 he was elected governor of the state for a term of four years.

Carl Williams, appointed for a term of three years, has been editor of the Oklahoma Farmer-Stockman, of Oklahoma City, and also vice-president of the National Council of Farmers' Co-Operative Marketing Associations.

G. Wallace W. Hanger, who was appointed for a term of two years, has had a broad experience in dealing with labor and wage matters. He was for a time chief statistician of the Bureau of Labor Statistics of the United States Department of Labor and in 1913 was appointed assistant commissioner of the United States Board of Mediation and Conciliation created under the

Newlands law. After the railroads were taken over by the government in 1918 he was appointed an assistant to the director of the Division of Labor of the Railroad Administration. After the passage of the Transportation Act and the return of the railroads from federal control he was appointed one of the members of the public group of the Railroad Labor Board and when his term expired he was reappointed.

Hywel Davies, who was appointed for the one-year term, has been with the conciliation department of the Department of Labor for a number of years. He has acted as mediator and conciliator in many labor disputes and particularly of late in wage matters affecting the California oil industry and was for many years president of the Kentucky Coal Operators' Association.

Provision for the expenses of the new board is made in the deficiency appropriation bill passed by the House on June 29 which transfers to the Board of Mediation and makes immediately available the appropriation of $285,220 already made for the Labor Board.

A. S. T. M. Meets at Atlantic City

Number of reports and papers of general interest to railroad men are presented

THE American Society for Testing Materials held its twenty-ninth annual meeting at the Chalfonte-Haddon Hall, Atlantic City, N. J., June 21 to 25. An extensive program was presented covering subjects pertinent to testing materials in various industries, sessions being held both day and evening.

A feature of this meeting was the delivering by Arthur N. Talbot, University of Illinois, of the first Edgar Marburg lecture, which was established on the recommendation of Committee E-9 on Correlation of Research for the purpose of having described before the society by leaders in their respective professions outstanding developments in the promotion of knowledge of engineering materials. Dr. Edgar Marburg, after whom the lecture is named, was the first secretary-treasurer of the society. The total registration was 905 which compares with 868 for 1925, the largest registration up to that time, making a new record for attendance at the annual conventions of the society. The election of officers, which was conducted by the usual letter ballot, resulted in the election of: President, J. H. Gibboney, chief chemist, Norfolk and Western, Roanoke, Va.; vice-president, G. W. Thompson, chief chemist, National Lead Company, 105 York street, Brooklyn, N. Y., and members of the executive committee, Cloyd M. Chapman, consulting engineer, 105 W. Fortieth street, New York; W. F. Edwards, director of research, United States Testing Company, Inc., 316 Hudson street, New York; W. B. Price, chief chemist and metallurgist, Scovill Manufacturing Company, Waterbury, Conn., and H. T. Shelley, secretary and manager, Eastern Clay Products Association, 906 Colonial Trust Building, Philadelphia, Pa.

Heat Treatment of Duralumin

The paper was presented by Robert J. Anderson, consulting metallurgical engineer, Cleveland, Ohio, describing the effects of various annealing, quenching and aging heat treatments on some of the mechanical properties of duralumin sheet. The sheet varied in thickness from No. 10 to No. 30 B. & S. gage. In the annealing heat treatment experiments, the effects of heating at various temperatures, followed by air and furnace cooling were examined. In the quenching and aging heat treatment experiments, the effects of quenching temperature, the time period of aging at ordinary temperatures, temperature of aging for a constant time, time period of aging at a constant elevated temperature, time period of soaking prior to quenching, and different quenching media were examined.

The mechanical tests made on the sheets included tension, hardness and indentation tests. The main results of these tests were presented in graphical form, the graphs showing suitable heat treatments to yield particular required properties. The tension testing of duralumin encountered the interesting phenomenon of slippage and the observations made on this were briefly described. The conclusions drawn from the experiments were based on a wide variety of heat treatments and tension tests on about 1,000 specimens, with a correspondingly large number of hardness and indentation tests. Roughly, the quenching medium has little effect on the resultant mechanical properties of duralumin. The more drastic the quenching the greater the strength and hardness and the lower the elongation. Of the quenching media used, oil and water give the best all around results and are generally most suitable. The most preferable general heat treatment procedure for ordinary duralumin, carried out for the purpose of obtaining the greatest strength and hardness, consists in quenching in water at from 500 deg. to 512 deg. C., followed by aging for three or four days at the ordinary temperature. The foregoing conclusions apply generally to both the low-copper and high-copper alloys. It was found that the elastic limit of the high-copper alloy, particularly in annealed samples is greater than that of the low-copper alloy. The additional copper gives a stiffening effect and also the highest tensile strengths in quenched and aged samples obtained with the high-copper alloy.

Concrete Specification Problems

Cloyd M. Chapman, consulting engineer, Dwight P. Robinson & Co., New York, presented a paper in which was discussed some of the many problems confronting the concrete specification writer. The topics discussed included the subjects to be covered in a comprehensive specification; the necessity for separate specifications for different types of service; the possibility of developing special cements for particular services; the possibility of developing test methods for determining the suitability of fine and course aggregates and water for making concrete for different uses; the various methods for designing concrete mixtures and the adaptation of present specifications of the Joint Committee on Standard Specifications for Concrete and Reinforced Concrete to include the use of the water-cement ratio method for design and for control.

He said in part that a complete specification for concrete will consist of several sections covering more or

less distinct and separate matters. These section headings and their contents might follow some such outline as this:

General—Covering scope, instructions, responsibilities, definitions, penalties, measurements and kindred subjects.

Materials—Covering kind and quality, and methods for determining fitness.

Proportioning—Covering proportions to be used or methods for determining and controlling proportions of materials to be used, the allowable variations in proportions and methods for checking proportions on the job, and for determining the quality of the resulting concrete.

Fabrication—Covering methods for measuring the batches, mixing, transporting and placing.

After-treatment—Covering control of moisture and temperature conditions from the time the concrete is in its final position till it has hardened and the forms are stripped.

Mr. Chapman pointed out wherein these specifications could be amplified or modified without altering their scope, arrangement and basic principles, more than is necessary to bring them in line with the latest developments in making concrete. The discussion was limited to those portions of the specifications which dealt with the proportioning and preparation of the concrete up to the time it left the mixer. Matters relating to the placing and after treatment were omitted.

The Sub-Committee on Inspection of the Fort Sheridan and Annapolis tests, reported additional failures at both places. The rate of corrosion at Annapolis is considerably slower than at Fort Sheridan, at which place 70 per cent of the non-copper-bearing light-gage sheets have failed, while only 1.5 per cent of the copper-bearing sheets have failed. A large proportion of the good sheets arbitrarily classified as non-copper-bearing (below 0.15 per cent copper) show by analysis a copper content of over 0.10 per cent. The failures at Annapolis are confined to the light-gage low-copper open-hearth steel and low-copper pure iron. None of the copper-bearing sheets have failed.

The Sub-Committee on Total Immersion Tests has made periodic inspections of the tests at Annapolis and Washington which completes the tests on the light-gage specimens. The report gives a comparison of the failures of the light-gage sheets under three widely varying water exposures, which information shows that where the metals are submerged, the presence of copper does not give increased resistance to corrosion. The subcommittee has arranged to study under open ocean water the effect of corrosion on steel ship plate with and without copper when riveted with rivets of iron and steel with varying copper content.

The Sub-Committee on Field Tests of Metal Coated Products reported substantial progress during the past year in the development of its program of atmospheric tests. It reports the completion of the test racks at five locations representing as many different conditions of atmosphere. Plans are now being worked out for collecting, testing and fabricating the wire and fencing samples and the hardware, pipe, conduit and structural shapes will follow in a short time. The work of the Inspection Committee, whose duties will be to inspect and report upon the tests, has been organized and the first inspections will be made during the coming year. This test is attracting wide-spread interest and liberal support from many sources in determining reliable data on the relative resistance of various coatings under service conditions.

A joint paper was presented by S. W. Parr, professor of Applied Chemistry, University of Illinois, Urbana, Ill., and F. G. Straub, special research assistant, University of Illinois Engineering Experiment Station, on the cause and prevention of embrittlement of boiler plate. Three types of cracks are recognized; first, those due to direct corrosion of the metal; second, those due to fatigue and third, those which are caused by caustic solution. A study of the areas throughout the United States where embrittlement occurs was made by the authors and instances of embrittlement were also noted which were the result of boiler water treatment. It was concluded that it was more important to know the condition of the water rather than the locality from which it came as an index of potential danger. A method of procedure was devised whereby the embrittlement effect could be produced at will, thus making it possible to study both the conditions under which it occurs and remedies for its prevention. The results of tests made by this method indicate that two conditions must be present simultaneously to produce the embrittlement effect; first, the stressing of the metal above the yield point and second the concentration of sodium hydroxide to a point which is not in excess of 350 grams per liter. Parallel tests omitting the sodium hydroxide showed no effect. Tests upon various types of metal from the purest obtainable to those with a high percentage of impurities showed that impurities did not modify the conditions.

So far as the experiments have gone, they indicate that prevention of embrittlement might be accomplished by the elimination of localized stresses, which is assumed to be impossible. The modification or control of the chemical condition of the water has been found to be effective. Data on actual plants in use covering a period of ten years, are consistent with the artificial embrittlement in that by maintaining a ratio of sodium sulphate and sodium hydroxide in excess of two, no embrittlement is found to occur. Free sodium carbonate in the water is in itself not active in producing embrittlement, but contains a potential danger is that it gradually is hydrolized into the caustic form.

Among the other reports and papers which were presented and which are of general interest to railroad men are the following:

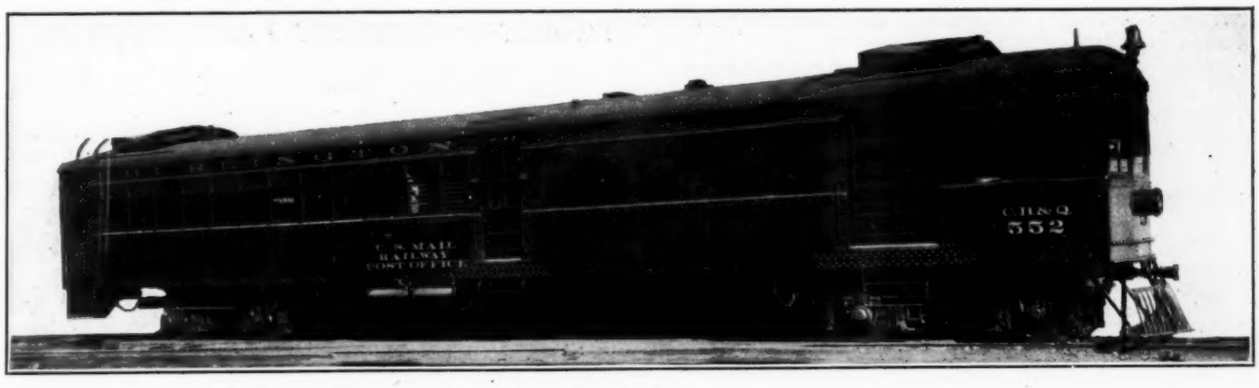
Committee C-5 on fire proofing, which includes specifications for fire tests of building construction and materials, such as bearing walls and partitions, non-bearing walls and partitions, columns, floors and roofs, and finish for walls, partitions and ceilings.

Committee D-7 on timber, which has been working in co-operation with the Committee on Wooden Bridges and Trestles of the American Railway Engineering Association presented revisions of the existing standards, and tentative standards of the society to be published in the form of a new tentative specification.

Committee A-1 on steel presented among other recommendations proposed revisions in the standards for carbon steel rails, for the manufacture of open-hearth steel girder rails of plain, grooved and guard types, for steel track spikes, for carbon-steel bars for railway springs, and for boiler and firebox steel for stationary service.

Committee D-1 on preservative coatings for structural materials presented among other recommendations, a new specification for raw linseed oil, mineral spirits, orange shellac, and a new method of test for the specific gravity of pigments.

Committee A-2 on wrought iron made a progress report on the utilization of wrought iron pipe for high temperature service. It believes that wrought iron pipe conforming to standard specifications should be satisfactory for high temperature service since iron has a higher melting point than steel and any except pronounced changes in composition would not have any effect on raising the melting point of the iron. It also believes that all iron pipe used for high temperatures should be lap welded.



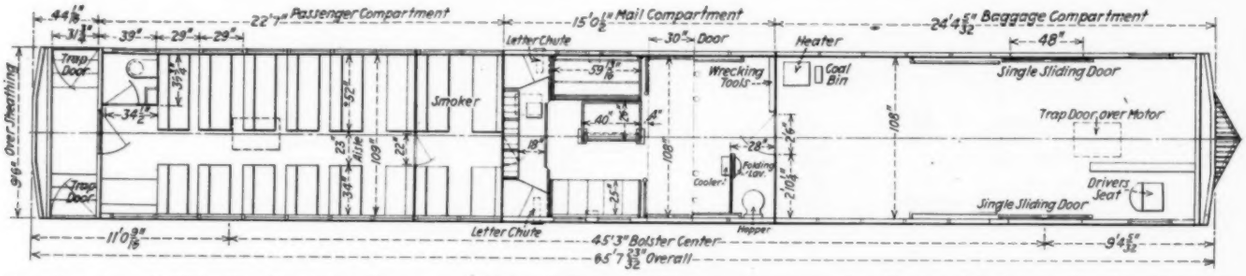
Edwards Gasoline Rail Motor Car Provided with a 100-hp. Motor on Each Truck

C. B. & Q. Acquires Gasoline Car with Independent Power Units

Entire floor space of 65 *ft. available for revenue purposes— Trucks provided with* 100*-hp. motors*

THE Edwards Railway Motor Car Company, Sanford, N. C., has recently delivered to the Chicago, Burlington & Quincy, one of six gasoline-motor cars which represents one of the largest cars of this type, from the point of revenue floor space. that has yet been constructed. The overall length of the body of this car is 65 ft. Since the motors are built in the trucks, the entire floor space is available for revenue purposes. The failure occurs, the trucks can be changed in about 45 min.

The four-wheel passenger coach type of trucks are equipped with 30-in. rolled steel wheels, which are pressed and keyed on the axles. Outside journal boxes are used and are fitted with Hyatt roller bearings; the axles are 4¾ in. in diameter and are made of chrome-vanadium steel. Coil springs are used over each journal



The Interior of This Car Contains Baggage, Mail and Passenger Compartments, the Latter Having a Seating Capacity for 42 Passengers

car has a baggage compartment 24 ft. long, a standard 15 ft. mail compartment and a passenger compartment 22 ft. 7 in. long, which has a seating capacity for 42 passengers. The car complete and ready for operation weighs 71,000 lb., 70 per cent of which is on the driving wheels.

This car is equipped with two double trucks into each one of which has been built a complete power plant which can be operated independently or together, as operating conditions may require. This construction serves to eliminate all direct motor vibration from the car body; eliminates universal joints, long drive shafts, angle drives and numerous gears. If one power plant should fail completely, the other unit remains to operate the car. This construction also has a maintenance advantage in that an extra or reserve power truck can be kept on hand and if a mechanical box and two large full elliptic springs support the bottom bolster.

The Power Plant

Each power unit consists of one Buda six-cylinder motor, 4½-in. bore by 6-in. stroke, which developes 100 hp. A Detlaff heavy duty clutch with an adjustable flange pressure plate, transmits the power to a four-speed transmission of a constant mesh type which, together with a special final drive and reverse mechanism provides the same number of speed changes in both forward and backward directions.

The complete power plant is mounted on a sub-frame which is suspended within the regular truck frame by four cantilever springs, attached to swing motion hangers. This mounting protects the machinery from rail shocks and at the same time absorbs the motor

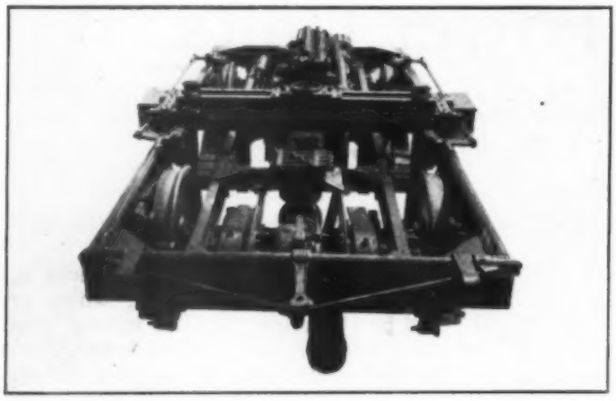
vibration so that it is impossible to detect any vibration in the car body.

A 90-gal. gasoline tank located under the car body is equipped with a filler cup located for convenient filling on the outside of the car.

The car is capable of making a speed of 45 m.p.h. and will accelerate from a standstill to 30 miles an hour in 45 seconds. Both power plants are controlled from one end of the car by the driver; the controls are mechanical and are so arranged that the driver can use either both motors simultaneously or each one separately.

The two radiators, located on the roof of the car, are cooled by the action of air passing through the tubes. As no fans are used, the power required to drive the fans is conserved. The radiators are equipped with shutters so that they can be closed, when necessary, in very cold weather.

A complete standard Westinghouse air brake system of the straight air type with emergency feature is installed on the car. There are two 12-cu. ft. capacity air compressors mounted on the trucks and driven direct



Top View of the Truck Showing the Motor Suspension and Driving Arrangement

from the engines. In addition to this air brake system there is an efficient hand brake system operated by a rachet located conveniently for the driver.

Car Body and Interior

The car body is of substantial steel construction throughout except for the floors, roof, doors, sash and interior finish which is of birch. The cars have straight sides, turtle-back roof, a round front and a vestibule at the rear end.

The end of the passenger compartment next to the mail compartment is set aside for a smoker which is 4 ft. 10 in. long and seats 10 passengers. All of the passenger seats are of the non-reversible type with pressed steel pedestals, wall and aisle plates. The seats on one side of the aisle are 52 in. wide for three passengers and 34 in. wide on the other side for two passengers. This leaves a 23-in. aisle through the car. The total seating capacity is 42 passengers. The principal dimensions of the car are as follows:

Total length of car	67 ft. 2 in.
Length over car body	65 ft. 8 in.
Length of baggage compartment	24 ft. 4 in.
Width of baggage compartment	9 ft.
Length of mail compartment	15 ft. ½ in.
Length of passenger compartment	22 ft. 7 in.
Length of smoking compartment	4 ft. 10 in.
Width of passenger car	9 ft. 1 in.
Width over sheathing	9 ft. 6 in.
Height from floor to ceiling	8 ft.
Height from rail to top of car	12 ft. 8 1/16 in.
Height from rail to floor	4 ft. 4 in.
Bolster centers	45 ft. 3 in.
Total weight	71,000 lb.

Motor-Generator Locomotives for the Great Northern

TWO motor-generator type electric locomotives, similar in general to those being secured by the New York, New Haven and Hartford Railroad, are being constructed by the American Locomotive Company, Schenectady, N. Y., and General Electric Company, Schenectady, N. Y., for the Great Northern. The two locomotives weigh 250 tons each with 200 tons on the driving wheels. They are to be used in connection with the extension of the railway electrification from Skykomish, Wash., to Wenatchee, a distance of 80 miles. In connection with this extension of the electrification, a 7¾-mile tunnel is being constructed through the Cascade Mountains, which will lower the present summit 500 feet. The new line will substitute 9 miles of practically straight track for 18 miles of curved and heavy grade line. The tractive power of the locomotives is exerted by two 3-axle trucks, each equipped with three 750/1500-volt direct-current motors. Power will be received through a pantograph trolley from the 11,000-volt, single-phase, 25-cycle line, transformed to 2300 volts and then converted through a 2500-kw., 3-unit synchronous motor-generator set to direct current.

Each motor is connected to the axle through twin cushion type gears. Two motors are permanently connected in series. The three unit set consists of a centrally located motor with a 1250-kw. direct-current generator at each end. By means of guiding axles at each end of the unit, provisions are made for operating at speeds up to 40 miles an hour, with a maximum emergency speed of 50 miles an hour. Type PCL control is provided, with arrangements for multiple-unit operation of the two locomotives.

Regeneration will be obtained by controlling the excitation of the traction motor fields. The use of regeneration permits the use of the motors as a brake, the power generated in this way being fed back into the transmission system.

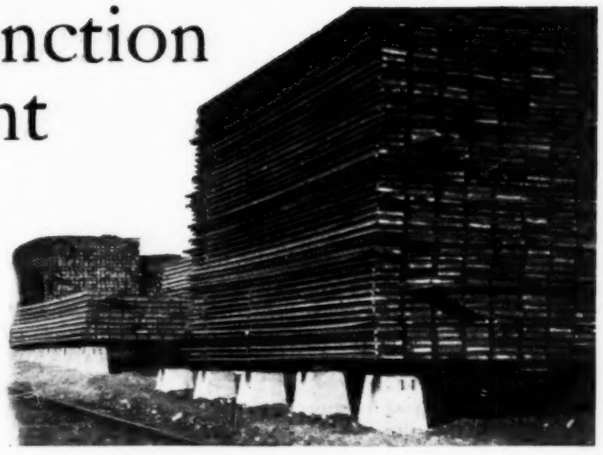
A high speed circuit breaker is used to protect both the locomotives and the supply lines from short circuits. The two pantograph collectors will have a range of from 16½ to 26 feet—one being used as a spare.

The maximum tractive effort of the locomotive, based on 30 per cent coefficient of adhesion, is 122,940 pounds. The following are the principal weights and dimensions:

Length inside knuckles	73 ft. 6 in.
Length inside cab	61 ft. 0 in.
Height inside cab	13 ft. 11 in.
Height over trolley locked down	15 ft. 3 in.
Total wheel base	60 ft. 0 in.
Rigid wheel base	15 ft. 10 in.
Total weight	509,800 lb.
Weight on drivers	409,800 lb.
Weight per driving axle	68,300 lb.
Weight per guiding axle	50,000 lb.
Diameter of driving wheels	54 in.
Diameter of guiding wheels	36 in.

Arrangements have also been made to convert the Puget Sound Power and Light Company's 60-cycle supply to 25-cycle, single-phase through a frequency changer substation located at Skykomish. In this station there will be two 7500-kv.-a. General Electric sets, each consisting of an 8000-kv.-a., 13,200-volt, 3-phase, 60-cycle motor and a 7500-kv.-a., 13,200-volt, single-phase 25-cycle generator. Each set will also include on the same shaft a 52-kw. exciter for the motor and a 77-kw. exciter for the generator. There will be three single-phase, 2750 kva., 110,000/13,200-volt transformers units. For the 25-cycle distribution, two 7500-kva. transformers are used, stepping up from 13,200 to 44,000 volts for the feeder distribution. All of these transformers are of the oil-insulated, self-cooled type.

Purchasing as a Function of Management



Present supply problems emphasize importance of specialized training in this work

By C. A. Merrill

Assistant General Purchasing Agent, Western Electric Company*

PURCHASING, in its present state, is a function which has been insufficiently recognized by management and the business world at large. The last available figures compiled by the United States Bureau of the Census for 1923 showed a total value of products manufactured in the United States of $60,000,000,000, of which 57 per cent or substantially more than half was represented by the cost of the materials purchased for use while slightly less than one-quarter was represented by salaries, wages and expenses in producing and selling. The purchasing function is therefore one of major importance.

Little Information on Purchasing

A recent canvass of an eastern press devoted to the publication of business text books showed that out of 200 works on various phases of business administration, there were numerous treatises on the science of salesmanship, or the technique of engineering and manufacturing but only two on the subject of purchasing. I know of only three schools and universities in the East which treat on the subject at all, and then only in the most rudimentary way—more in relation to problems of business procedure than of modern purchasing methods along scientific lines. But few corporations and companies can be indicated that recognize purchasing is an important part of their operations and that special training along definite lines is given to their employees in order to qualify them for the better performance of their work. The majority conduct their buying along somewhat set lines without special provisions for training and education of employees and in general subordinate it to the activities of production and sales. This does not imply that individual keenness and ability in trading are lacking, but that much less attention and constructive effort has been given to the training of employees to carry out established purchasing methods and policies.

In the early part of the 19th century, we were largely a rural community and a nation of small unit producers—whole families being practically self-supporting as to food, clothing, fuel and housing. The development of cheap transportation, the rapid growth of population and our abundant natural resources gradually changed this condition to one of increased production and competition, while the following era of inventive genius, as expressed in the development of labor saving machinery and subsequent mass production, focused the attention of management upon the economies of manufacture. During this period, a great deal more attention was devoted to the simple procurement of the materials than to the values paid, this being possible because of the ease with which manufactured goods were marketed at generally prevailing low prices. When, therefore, management produced manufactured goods to the point where they could not readily be absorbed by the public, and highly competitive conditions developed through this overproduction, it was natural that selling should be next intensified by management, through the development of distribution, direct sales efforts and advertising or publicity work.

No one questions the desirability of management's concentration on these things. They have been vital in the country's growth, major factors in our prosperity; and their development is far from ended. However, the ideas that possibly one of the management's functions has been too lightly regarded and that there are possibilities in modern scientific purchasing that have not yet been fully appreciated are growing.

Tips and Hunches Archaic

There is no more vital spot in an organization than the purchasing department, no place where profits can be so advantageously secured or where losses can be more easily incurred. Many large organizations are finding by experience that purchasing must not be done by hit or miss methods or by tips and hunches, but must be accomplished, based on close knowledge of actual facts derived from broad studies. The purchasing officer must know the economies as well as the mathematics of the business. He must have a comprehensive grasp of general business to do efficient work. What the general market conditions are, as well as the local; at what stage in the business cycle one stands; whether the trends of business activity and prices are such as to warrant extended or limited purchasing; whether prices quoted are fair or unreasonable from the analyses of material costs; if the purchasing personnel forms such an organization that it can be kept readily informed of these things and coordinated with other departments; if the purchasing department's records are such that correct price and market information is always available to the buyer, are some of the questions which are involved in the more modern and scientific conception of purchasing.

It is my conviction that advanced purchasing methods require that the purchasing function should be administered independently. It should be permitted to exercise its own judgment and handle its own operations with entire freedom up to the point of the execu-

* From an address before the National Association of Purchasing Agents, Los Angeles, Cal., June 11, 1926.

tive administration. In such an organization the work of the buyers must be supplemented by individuals who can perform the studies and research work that will keep the buyers provided at all times with the following essentials:

1. A knowledge of market conditions and proper timing of purchases.
2. A knowledge of the actual costs of the materials purchased.
3. Information that will permit buying in the right volume and distributing the purchases to the best advantage, and
4. Information needed for the institution of long time contracts.

Foresight Required

Prices of materials fluctuate in an erratic fashion. Whether these fluctuations are seasonal or due to the business cycle or to psychological influences, or are merely the result of supply and demand, it ought to be possible to arrange programs and policies of buying along more scientific lines than in the past. If a business is to be successful, its purchasing policy must be sound. Unwise buying, buying too much and at the wrong time, have caused the failure of many companies.

The idea of forward buying is generally associated with speculation, but such a viewpoint does not take all conditions into account. When there are definite requirements of material for consumption for some months in the future, guaranteed by orders in hand, and there is present a condition where a knowledge of costs indicates that the quoted price is low, it is not speculation. To purchase under such a policy moreover helps to stabilize business through encouraging business during depression and steadying it during its most active times. It is a historical fact that a business purchases most heavily at high price levels. Thus the question of buying at the right price instead of buying at the best competitive price is an important one.

But above all in valuing merchandise is the ability to analyze the costs of production of the seller. Such analyses can be employed for nearly all major commodities and for all lesser commodities in a certain degree. In the average product more than half the value is in raw material. It is not difficult to identify the materials and quantities used and to establish their market prices through investigation, but further investigation should be made to provide fair estimates of the costs of labor, overhead, and profit. The value of such information in the hands of the buyer tends to increase the respect of the seller and produces satisfaction over the soundness of the bargain made. The application of this procedure, compared with the simple matching of competitive prices, will show results.

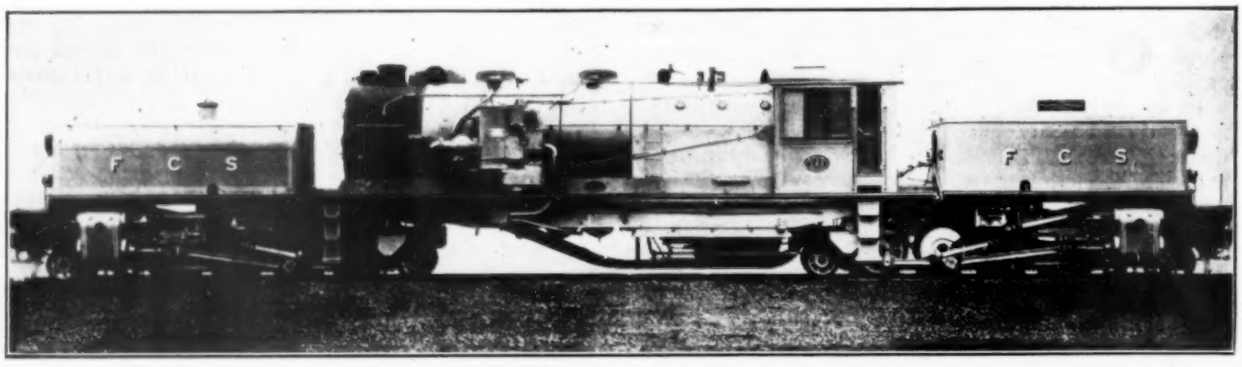
Distribution of purchases in the right quantities as a factor in purchasing is more important to a large organization operating over a wide spread territory, than to smaller organizations depending upon local sources of supply, but it is safe to say that great advances have been made in the equalization of delivered prices, through the apportioning of business by zoning it to an economical advantage.

Long Time Contracts Desirable

I do not understand why there is not more general recognition of the economic value of contracts where the buyer agrees to take a fixed proportion of output regularly at prices which are adjustable according to the fluctuations of the major materials involved. Such contracts provide the manufacturer with a uniform volume of production. This has a steadying influence on his business. The manufacturer eliminates his expense of selling that part of his output and its production enables him to lessen his overhead and decrease unit factory costs. The purchaser also gains because if such contracts are to be mutually beneficial a part of the manufacturer's economies must be shared with the buyer. I know of no other such stabilizing influence as the use of these contracts.

I have emphasized the lack of recognition which purchasing, as a major function in the conduct of business, has received. A start, however, has been made. A number of firms are practicing the beginning of scientific purchasing. There are also many indications that others besides the purchasing profession are coming to realize that there is such a thing as scientific buying.

In a recent article, a notable sales executive, in referring to one of his best salesmen who was having some difficulty, told how this salesman was so busy applying the science of selling that he forgot there is a science to buying also, and as a result had permitted the buyer to shake his confidence in his products. This is particularly significant coming from a man well trained in the science of sales. The lesson is that the purchasing agent who has a vision of the possibilities of the future and can prepare himself to conduct his buying on more scientific methods will assume a primary function in the management of his organization. The purchasing agent who cannot do this will gradually be eliminated from his chosen occupation.



Garratt Type Locomotive, Equipped with the Worthington Feed Water Heater, Built for the Nitrate Railways, Chile

Tractive Force, 60,150 lb.; Diameter of Drivers, 42 in.; Cylinders, 22 in. by 20 in.; Boiler Pressure, 200 lb. per sq. in.

I.C.C. Report on Collision at Gray, Pa.

Sudden death or incapacitation of engineman believed to have been cause of failure to obey signals

WASHINGTON, D. C.

SUDDEN death or physical incapacitation of Engineman Gordon of the Cincinnati Limited train, No. 40, is ascribed as the probable cause of the rear collision between that train and the Washington Express, train No. 50, on the Pittsburgh division of the Pennsylvania near Gray, Pa., on June 16, in the report of W. P. Borland, director of the Bureau of Safety of the Interstate Commerce Commission, made public on June 30. The commission's investigation was conducted jointly with the Public Service Commission of Pennsylvania.

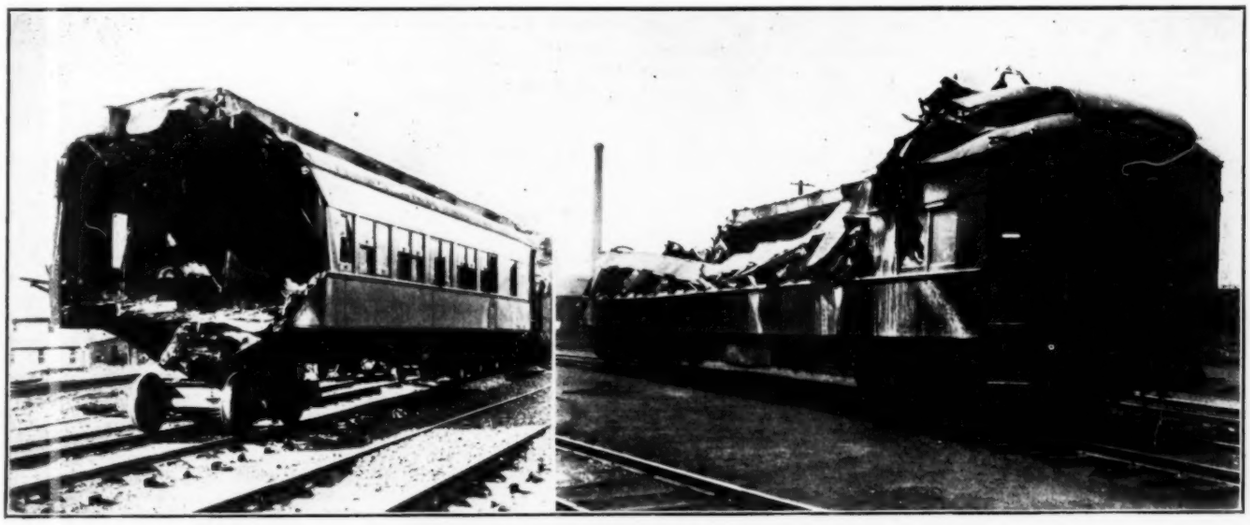
Giving this conclusion the report continues that had Engineman McConnell of the second engine of train No. 40 realized a few seconds earlier that speed was not being properly controlled by Engineman Gordon of the leading engine, he could have brought the train to a stop in time to avert the accident; and had Flagman MacDonald gone back as far as he was able to go in the time available after his train came to a stop and before he was recalled, his fusee and torpedoes (placed farther back) would probably have given Engineman McConnell warning in time to have enabled him to stop his train before striking the preceding train, or at least in time to mitigate the disastrous consequences of the collision.

The collision resulted in the death of 11 passengers and 4 employees, and the injury of 82 passengers, 1 of them fatally, and 4 employees.

The report says that this accident forcefully calls attention to the need of an automatic train control appliance, * * * and the operating officers of the road are advised to give immediate and thorough consideration to the matter of the observance and enforcement of the flagging rule. It is stated that an autopsy was held upon the body of Engineman Gordon for the purpose of determining, if possible, his physical condition just prior to the accident and that this revealed heart conditions which might at any time have resulted in sudden physical incapacity or death. The evidence is said to indicate that he "sounded a crossing whistle signal as his train was approaching Gray, but that from that time onward he took no action whatever and he was found lying on his back with his hands folded across his chest, his position suggesting a peaceful rather than a violent death."

This section of the road is four-track and the collision occurred on Track 2, the second track from the south. It was on a curve of three degrees to the left following several short tangents and curves. The grade is generally descending, being about ½ per cent at the point of collision. The signals, automatic, are three-position upper-quadrant semaphores, controlled without line wires by a.c. track circuits, and three-position polarized track-relays. The signals are electrically lighted, power being supplied from an underground power line. The signals are mounted on signal bridges, those involved in this case being No. 3020 just west of the station at Gray; and No. 3012 which is 3847 ft. east of 3020. Signal 3020 is a one-arm signal. Signal 3012 has a second arm and it gives the distant indication for BH Tower, 4094 ft. farther east. The engineman has a view of signal 3020 for 660 ft. and the fireman has a view for 2002 ft.; the engineman can see signal 3012 at 964 ft. and the fireman at 401 ft.

Train No. 50 consisted of one locomotive and seven Pullman cars; No. 40 consisted of two locomotives and 10 Pullman cars, all cars of both trains being of steel. The trains were about on time. No. 50 had been standing about eight or nine minutes, having been stopped because of a burst air hose. The collision occurred at 11:44 or 11:45 p. m. Eastern time. The locomotive of train 40 penetrated the sleeping car "Mount Union," the rear car of No. 50, about 16 ft. The next car, the "Fieldsboro," telescoped the car ahead



Last and Third from Last Cars in Train 50

The Mount Union at the Left, the Entriken at the Right

of it, the "Entriken," for nearly its entire length, the body of the Fieldsboro over-riding the floor of the Entriken. The leading locomotive of No. 40 was overturned to the right, and its tender lay across track No. 1; the second locomotive was turned almost completely around and lay on its left side. The first car in No. 40, the Club car "Watkins," lay cross-wise of tracks one, two and three, and was practically destroyed. The passengers who were killed were in the Entriken and the Watkins. Both enginemen of No. 40, the fireman of the leading locomotive, and the baggage master were killed.

Following an eight page summary of the evidence the report goes on to discuss the signals.

After the track had been repaired so as to permit operation to be resumed, the signal cases were opened and the wires which had been disconnected were replaced; then the cases were again locked and not reopened, nor were tests made until June 19, when representatives of the Interstate Commerce Commission and Public Service Commission were present. Signals 3020 and 3012 were under continuous observation from 2:30 a. m., June 17, until 7:00 a.m., June 20, and no irregular operation was observed, except that on one occasion signal 3020 again started to pump between the caution and stop positions.

With train No. 50 standing east of signal 3012, train No. 40 should have received a caution indication at signal 3020 and a stop indication at signal 3012. In order to ascertain whether any condition existed which could have caused the display of a more favorable indication by either of those signals and also to determine the cause and effect of signal 3020 pumping, observations and tests of the signal apparatus involved were made on June 19 and 20. Torque tests of signals 3020 and 3012 were made which disclosed that both signals were operating freely. The insulation of the signal-circuit wires between the track relays and the signal mechanisms, and of the pole-changing wires for track circuit 3020, was tested, which tests disclosed no defects and demonstrated that these circuits were in proper operating condition. Tests of the pick-up, drop-away, and working voltages of the track relays were made, as well as tests of the track circuits, which disclosed no improper or abnormal condition.

Tests of the approach indicator for track No. 2 at BH tower [east of signal 3012] were made by shunting in succession each of the two track circuits which control it, and the indicator, track relays and signals all operated properly; with a shunt on track circuit for signal 3020, the track relay opened, signal 3020 went to stop position, and the approach indicator light went out; with the shunt on the track circuit for signal 3012, the track relay for this circuit opened, signal 3012 went to stop position, signal 3020 went to caution position and the approach indicator light remained out.

Examination of signal 3020 disclosed that this signal would pump between caution and stop positions due to insufficient tension on a contact spring and because of carbon contacts which were somewhat glazed. While this pumping of the signal would result in displaying a somewhat poorer yellow or caution light indication, it could not cause the signal to display a clear indication, but tended to move it from caution toward stop.

The signal system was placed in service in 1912. The motor in the signal mechanism for signal 3020 was replaced by a new one on May 21, 1926, the other motor being removed for shop test, inspection and repairs; and in April, 1926, the track relays for both signals 3020 and 3012 were replaced by new relays of a different type which are being used to replace the relays of the original installation. The records showed that a periodical inspection and test of all signals on bridges 3020 and 3012 was made on June 11, 1926, which disclosed that these signals were in proper operating condition. The records for the past five years disclose that there have been one failure of signal 3012 and three failures of signal 3020, in all of which the signal involved indicated stop.

As will be apparent from the foregoing, the investigation and tests did not disclose or indicate that any condition existed which could have caused the display of a false clear or a false caution signal indication. There is no question that the signals were operating properly prior to the accident and it is known by direct observation that they operated properly as soon as the tracks were repaired after the accident. Furthermore, the statement of Operator Little at BH furnishes direct evidence that the signals were operating properly at the time of this accident. According to his statement, the approach indicator light went out when train No. 50 passed signal 3020 and remained out until after the accident. The fact that this light went out indicates that the track relay which controls signal 3020 operated properly when train No. 50 passed that signal, and the fact that it remained out after train No. 50 cleared that section indicated that the track relay controlling signal 3012 had also operated and that the track relay controlling signal 3020 had not improperly moved to a position which would permit signal 3020 to be operated to clear position. It is therefore established beyond reasonable doubt that the signals were operating properly just prior to and at the time of this accident, and that a caution signal indication was displayed by signal 3020, and a stop signal indication by signal 3012 for train No. 40.

The reason that these signal indications were not properly observed and obeyed by the engine crews of train No. 40 cannot be positively determined. The evidence discloses that not only were the brakes not applied from the leading engine as should have been done in order to control the train as required by the caution and stop signal indications, but even after the flagman and rear end of train No. 50 came into view, the fusee passed and torpedoes exploded, no brake application was made or call for brakes sounded from the leading engine, and steam was still being used by that engine when it was last observed, only an instant before the collision occurred.

After the accident an autopsy was held upon the body of Engineman Gordon for the purpose of determining, if possible, his physical condition just prior to the accident. In a preliminary report the doctor who performed this autopsy stated that he could not tell definitely but he thought that Engineman Gordon was alive at the time of the accident. He was quite sure that if he was not alive then he had not been dead more than a few moments. He said he had known of cases with the same arterial lesion, and moderately advanced, to suffer angina. In formal report as a result of the autopsy the following statement was made:

"Coronary scelerosis while present, was only moderately advanced. While angina pectoris has occasionally been associated with lesions of the degree found in this instance, it is far more common to find lesions of a similar degree in individuals who have at no time complained of attacks of angina. In the absence of conclusive evidence, the theory of an attack of angina can be given little more than theoretical consideration."

The autopsy therefore revealed conditions which might at any time have resulted in sudden physical incapacity or death. Engineman Gordon was 57 years of age. Each year for the past three years he had undergone the physical examination required of enginemen by the railroad company, his last examination being on September 11, 1925, the record of which indicates that he was considered to be in proper physical condition to continue in engine service. Locomotive dispatcher Plummer stated that Engineman Gordon signed the register at 8:45 p. m. on June 16 and while conversing with him at that time he did not see anything wrong with him; from his actions and talk he appeared to be the same as usual. Conductor Faust also said that he spoke to Engineman Gordon just prior to starting on this trip and he noticed nothing unusual in his condition.

The evidence indicates that Engineman Gordon sounded a crossing whistle signal as his train was approaching Gray, but from that time onward he took no action whatever and he was found lying on his back with his hands folded across his chest, his position suggesting a peaceful rather than a violent death. The conclusion, therefore, appears to be well founded that Engineman Gordon was dead or physically incapacitated before this accident occurred.

It does not appear that Engineman McConnell of the second engine of train No. 40 took any action to assume control of the train until after the fusee and rear end of train No. 50 came into view and about the time the torpedoes were exploded just east of signal 3012. That he was in possession of his faculties is evidenced by the fact that he then made an emergency application of the brakes, but his delay in assuming control of the train, which may have been due to failure or inability to see the signals because of smoke or steam from the leading engine, or to confidence that Engineman Gordon would himself control the train as required, rendered futile his efforts to avert the collision.

Fireman McConnell of the second engine stated that he saw a clear signal indication at signal bridge 3020, but he did not remember seeing the other eastbound signal on that bridge. The condition of the track ahead was such that a clear signal indication should have been displayed at that point for track No. 1 and a caution signal for track No. 2. It therefore appears probable that in rounding the curve approaching this signal bridge, Fireman McConnell saw the clear signal on track No. 1 and accepted it as the indication for track No. 2 on which his train was running. From his statement, it appears that he did not see signal 3012, and the first intimation he had of impending danger was when the rear end of train No. 50 came into view, the fusee and torpedoes were passed and his

engineman applied the brakes in emergency. It was then too late to avert the collision.

* * * It is apparent from the evidence that Flagman MacDonald of train No. 50 had at least four minutes in which to go back and protect his train before he was recalled. When train No. 50 stopped at the point of accident, the attending circumstances required that Flagman MacDonald exercise the utmost diligence in providing flag protection for his train. The stop, as he was fully aware, was an emergency stop, and he thought an accident to his train had already occurred. The stop was made at a point where trains are commonly operated at high speed, and at a point where the view from a following train was obstructed by a cut and trees on the inside of a curve; moreover, the rear end of his train was scarcely emergency braking distance from block signal 3012, and he knew that train No. 40 was scheduled only a few minutes behind his train. While Flagman MacDonald stated that he thought he went back as far as he could before being recalled, measurements made during the investigation of the accident showed that he actually went back a distance of only about 720 ft. from the rear end of his train. The point which he reached was marked by the burned-out fusee, which he placed on the track 99 ft. east of signal 3012. * * * It is apparent that Flagman MacDonald, by exercising reasonable diligence could have gone back a considerably greater distance than he did before being recalled. Had he done so and there placed his fusee and torpedoes, the accident might have been averted, or at least the force of the collision reduced.

Conclusions

The conclusions after covering the points already noted, deal with the flagging rule. It appears that trainmen depend upon the speed of the train flagged being controlled in accordance with block signal indications. In this case, Flagman MacDonald maintained that he went back a sufficient distance to protect his train, but then virtually admitted that this was contingent upon the speed of the following train being controlled in conformity with the block signal indications. While no comprehensive check-up of the flagging practices on this line was made during the investigation of this accident, on one occasion when the train upon which the investigators were riding was unexpectedly stopped between stations, it was observed that the flagman went back at a slow walk, and on another occasion when a train had been standing for several minutes at a station the flagman did not go back at all and was not even out at the rear end of his train. If the action of Flagman MacDonald of train No. 50 in this case is an example of the common practice of flagging on this line, it is apparent that the provisions of rule 99 with respect to flagging are not being properly observed and enforced. This is a condition which should be given immediate and thorough consideration by responsible operating officers.

All of the employees involved in this accident were experienced men with good records; and none had been on duty excessive hours.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended June 19 amounted to 1,043,720 cars, a decrease of about 16,000 cars as compared with the loading for the preceding week, but an increase of 59,137 cars as compared with the corresponding week of last year and of 140,174 cars as compared with 1924. Increases as compared with last year and the year before were reported in all districts and in all classes of commodities except livestock, which showed a decrease of 4,617 cars as compared with 1924. Coal loading showed an increase of 34,265 cars, merchandise an increase of 23,805 cars and miscellaneous freight an increase of 62,253 cars, as compared with last year. The summary, as compiled by the Car Service Division of the American Railway Association, follows:

The freight car surplus for the period ended June 14 averaged 268,778 cars, including 76,071 coal cars and 145,684 box cars. The Canadian roads for the same period had a surplus of 22,930 cars, including 19,700 box cars.

REVENUE FREIGHT CAR LOADING
Week Ended Saturday, June 19, 1926

Districts	1926	1925	1924
Eastern	250,254	234,460	213,278
Allegheny	212,504	201,403	187,194
Pocahontas	57,762	50,694	41,137
Southern	148,444	142,906	124,897
Northwestern	161,549	150,561	144,227
Central Western	139,974	133,107	135,558
Southwestern	73,233	71,452	57,255
Total Western Districts	374,756	355,120	337,040
Total All Roads	1,043,720	984,583	903,546
Commodities			
Grain and Grain Products	39,272	35,425	36,446
Live Stock	27,183	25,539	31,800
Coal	175,079	155,115	140,814
Coke	11,523	9,347	7,325
Forest Products	74,660	71,782	68,172
Ore	68,261	61,616	57,305
Merchandise, l. c. l.	264,500	258,221	240,965
Miscellaneous	383,242	367,538	320,989
June 19	1,043,720	984,583	903,546
June 12	1,060,214	989,873	902,592
June 5	945,964	998,243	910,793
May 29	1,081,164	913,087	820,551
May 22	1,039,385	987,306	918,224
Cumulative total 25 weeks	23,969,877	23,380,440	22,276,951

Car Loading in Canada

Revenue car loadings at stations in Canada for the week ended June 19 totaled 63,956 cars, an increase over the previous week of 1,652 cars, the eastern division showing an increase of 1,875 cars and the western division a decrease of 223 cars. Compared with the same week last year they were heavier by 12,689 cars and with 1924 they were heavier by 4,705 cars.

	Total for Canada			Cumulative Totals to Date	
	June 19	June 12	June 20		
Commodities	1926	1926	1925	1926	1925
Grain and Grain Products	7,814	7,058	5,399	170,221	142,673
Live Stock	1,901	1,891	1,972	48,035	52,420
Coal	6,544	6,256	1,592	113,585	83,843
Coke	276	231	201	9,839	6,753
Lumber	4,511	4,013	4,182	83,636	81,953
Pulpwood	2,191	2,319	2,003	74,579	73,489
Pulp and paper	2,410	2,414	1,995	61,127	50,635
Other forest products	3,107	3,023	2,708	80,840	71,786
Ore	1,695	1,993	1,797	36,979	30,644
Merchandise, L. C. L.	16,989	17,076	15,887	378,391	359,413
Miscellaneous	16,514	16,030	13,531	307,759	271,025
Total cars loaded	63,956	62,304	51,267	1,364,991	1,224,633
Total cars rec'd from connections	38,266	37,178	31,419	893,988	797,936

Report on Collision At Gamble, Alabama

W. P. BORLAND, director of the bureau of safety of the Interstate Commerce Commission, has made his report on a collision of northbound and southbound passenger trains on the Southern Railway at Gamble, Ala., April 25, when the engineman and fireman of the southbound train were killed and 75 passengers, and 15 employees and other persons, were injured.

These trains were both through Florida expresses, the "Seminole Limited," of the Illinois Central, and were manned by Illinois Central crews; No. 9 southbound, with locomotive 2416 and No. 10 northbound, with locomotive No. 2417. Each was made up of 13 steel cars. Both were moving at about 10 or 15 miles an hour or faster, and they met on a curve of four degrees about midway between the switches on the long siding at Gamble about 2 p. m. Northbound trains are superior by direction and the collision was due to the failure of the southbound train to enter the siding. The trains were meeting at Gamble by a dispatcher's order. Locomotive 2416 was overturned and the wreck was a bad one. The engineman of No. 9 had sounded the station whistle signal, and immediately after this the

meeting point signal had been communicated to him by the signal cord, and this was answered by two blasts of the locomotive whistle. The conductor applied the brakes, but not until it was too late.

For five or six months, train orders had been issued for the meeting of these trains nearly every day, often at their regular meeting point, requiring the northbound train to enter the siding; and it is believed that the mistake of the engineman of No. 9 was due to his having become accustomed to holding the main track at the meeting point. And yet, the operator at Haleyville confirmed the testimony of the conductor that in handing the meet order to the engineman, the conductor said "we meet them at Gamble, and we take the siding."

The report holds the conductor of No. 9 equally responsible with the engineman. "The evidence indicated that the conductor delegated to the colored train porter the duty of sounding the meeting point signal, and that the conductor continued with his work of sorting tickets until the car in which he was riding, the fourth car, had passed the switch.

"This accident is but one of several which have occurred during the past year in which the colored train porter not only was performing duties which should have been performed by the conductor, but in which the train porter apparently was more interested in the safe operation of the train. . . . Had Conductor Blackmon been paying proper attention to the operation of his train, stationing himself where he could observe what was transpiring, there is no reason why he could not have applied the air brakes by the time the engine reached the passing track switch."

Accounting Factors in Fuel Conservation*

A summary of the accounting and statistical functions in relation to fuel control

By J. J. Ekin
Comptroller, Baltimore & Ohio

THE accounting officers of the railroads in the United States have not been idle when the question of fuel has been involved. The responsibility of the accounting department may be divided under two general groupings: The receipt of and accounting for fuel, and statistical.

When a car of coal is delivered to any part of the carrier's lines, that constitutes delivery in so far as the coal company is concerned and its bill for the value becomes due and payable. It is not delivered, however, in so far as the carrier is concerned, until it is dumped at the place of consumption. This is where the accounting department begins to function. It is its duty to see that the quantity billed corresponds to the scale record of its weight when it came from the mines and that the price is in accordance with the company's agreement with the coal company, before vouchering the bill.

It is also the duty of the accounting department to see that all coal paid for is properly accounted for and this makes it necessary to trace each car not reported unloaded in a reasonable length of time, to determine that it was or was not used for company's use.

Verification of receipt and accounting for the value of company coal are simple routine matters covered by standardized forms, the principles of which are practically the same on all lines and which we will assume are sufficiently effective to assure payment only for coal received and that it was used for company service.

Effective records of the use of company coal is a problem separate and distinct from its receipt and is a matter of vital importance to the accounting department, particularly where the detailed statistical data reflecting its use are compiled under the supervision of the accounting department. Statistics are valuable only to the extent that they reflect a true and accurate picture, for unless your statistics are correct, there is danger of directing attention to a situation that does not exist in practice and entirely overlooking a bad condition that could not be deduced from the statistics if they are not reasonably correct.

The company which I have the honor to serve has charged the accounting department with this responsibility, accomplishing its purpose through the division accountant who reports to the accounting department. Each coaling station where locomotives receive coal, reports daily on a prescribed form, to the division accountant, the quantity of coal delivered to each locomotive and this is the basis of subsequent fuel consumption statistics. Compilations are made showing the coal consumed by engine numbers and by engineers' names for the purpose of bringing to the attention of the road foreman of engines those engines that are burning more coal than others and the names of those engineers whose engines are burning more coal in the same class of service than other engineers. This promotes a healthy rivalry with resultant fuel economies and it is the duty of the accounting department with its inherent interest in the "net" to interest itself in seeing that efficient use is made of such statistics.

As a further aid in controlling fuel consumption, after the operating department has determined the quantity of coal an engine of a certain type on a particular division, with a given tonnage should consume, and has established a "standard" for that engine, it is the function of the department of audit to tell them whether or not the engine is performing in line with its "standard."

When the different branches of the operating department come to know that these figures are going to be uninfluenced by any other factor than that they must be correct, they will certainly exert an influence for good

*Part of an address presented at the convention of the International Railway Fuel Association, held at Chicago May 11-14, 1926

to a far greater extent than if the department charged with the expense made their own measuring stick.

As an illustration of the extent to which the accounting department endeavors to get this data in the hands of all those interested, so that the greatest possible good will result, statements of record of fuel performance by engine numbers and engineers' names, respectively, are forwarded to the general superintendent, division superintendent, superintendent fuel and locomotive performance, district master mechanic, division master mechanic, supervisor of locomotive operation, terminal trainmaster, freight trainmaster, road foreman of engines, assistant road foreman of engines and general foreman. In addition to this, the road foreman of engines is supplied with sufficient copies so that he can mail one to each engineer whose name appears on the list.

On the Baltimore & Ohio the accounting department has always received the fullest co-operation from the maintenance and operating officers.

I think the situation as to reporting of coal consumed may be summarized as follows:

1—That the report forms provide the data in precise and direct manner for purposes of statistical presentation; of fuel performance in terms of consumption per unit of work done.

2—That the report forms, instructions and methods of application, provide definitely for accurate divisions between classes of service.

3—That the report forms, etc., provide for accurate, current reporting of fuel consumed by definite periods, to avoid adjustments of charges to classes of service subsequent to actual consumption periods.

4—That the report forms, etc., provide a standard means, suitable to all railroads, for accurate reporting of the fuel performance of individual enginemen and locomotives, through the medium of a "Standard Daily Issue Report."

Statistics compiled from accounting records are only as true as the underlying records permit them to be. I am telling you nothing new when I refer to the fact that on a great many of our railroads the underlying or foundation data still remains in charge of employees of a type who do not readily absorb instructions. Efforts to reduce expenses frequently begin at the wrong end of the operation. It has often appealed to me that money could probably be saved by spending money at the beginning of an operation rather than attempting to recover it by investigation after the operation has been completed.

Statistics take many forms and are read differently by a great many people. There probably might be some difference in opinion as to the proper way to measure fuel performance; the operating man might insist that he should have full credit for everything he moves, while the financial man might insist that credit is due only in proportion to the revenue produced. Probably both are right. Operating executives are not only charged with moving traffic offered, but they must also expend energy and money in transporting company fuel and other material, consequently, it seems fair that they should be given credit for their entire movement, but their entire movement should also be in relation to the movement that produces the money.

Net vs. Gross Traffic Units as Bases of Comparisons

In 1920 there were established measurements which indicated the pounds of fuel per 1,000 gross ton-miles, including locomotive and tender, and the pounds of fuel per passenger train car-mile. Comparisons for 1920 to 1925, inclusive, are as follows:

Year	Pounds per 1,000 gross ton-miles	Pounds per pass. train car-mile
1920	172	18.8
1921	162	17.7
1922	163	17.9
1923	161	18.0
1924	149	17.0
1925	140	16.1

The Bureau of Railway Economics is authority for the statement that, "Based on the volume of traffic handled by the railways in 1925, the actual saving in tons of fuel consumed in freight and passenger service, due solely to better use of fuel, amounted to 24,467,115 tons compared with 1920, and 7,302,797 tons compared with 1924. The value of this tonnage at the prevailing average price of 1925, was $73,401,000 for the saving under 1920, and $21,908,000 for the saving under 1924. These savings, be it emphasized, were due entirely to increased efficiency in use."

You gentlemen very properly have been making your comparisons on the basis of gross ton-miles and the most of the discussion has been with respect to freight service. I agree with you that from a transportation expense standpoint this is a fair yardstick to use for comparison, but the revenue ton-mile and passenger-mile are the things in which we are most interested.

Any increase in the weight of locomotive and weight of car is, of course, included in the gross ton-miles. The weight of the passenger locomotives and the weight of the passenger cars have been increased, but are we receiving a corresponding benefit in passenger-miles? No.

I have prepared a table for the Class I railroads of the United States which discloses the facts in connection with this situation. In this table are shown the pounds of all fuel consumed, bituminous, anthracite and fuel oil, for both passenger and freight service and the traffic units equated by multiplying the passengers one mile by three and adding to the revenue tons one mile, and from this develop the pounds of fuel per 1,000 traffic units.

Comparisons of Fuel Consumption on a Traffic Unit Basis

Year ended Dec. 31	Pounds of fuel (1,000)	Equated traffic units (1,000)	Pounds of fuel per 1,000 equated traffic units
1917	300,461,294	512,895,977	586
1918	296,244,870	533,409,021	555
1919	265,241,870	503,367,975	527
1920	302,811,424	550,852,214	550
1921	242,012,484	418,777,962	578
1922	254,426,686	445,695,233	571
1923	297,843,428	526,597,013	566
1924	271,234,640	496,687,971	546
1925 (est.)	271,844,992	522,031,421	521
Average—9 years	278,013,521	501,146,087	555

It will be observed the high year was 1917 with 586 lb., the lowest year was 1925 with 521 lb., while the average for the 9 years was 555 pounds. The decrease compared with 1920 is 29 lb., or 5.27 per cent, and compared with 1924, 25 lb., or 4.58 per cent, which I regret to say reduces the saving claimed on a gross ton-mile basis, 1925 compared with 1920, from $73,401,000 to $22,708,000, and 1925 compared with 1924 from $21,908,000 to $18,626,000. The better showing in 1925 compared with 1924 no doubt is largely due to the increase in train load, increase in speed and as a consequence an increase in net ton miles per train hour of about 7 per cent.

Some of the things which contribute to the unfavorable showing when based on revenue performance is the fact that the average load per car in 1925 was below the five-year average during every month of the year and was 27 tons, as compared with 29.3 tons in 1924. This reflects the changed conditions that have come about with respect to character of traffic, l.c.l. merchandise having increased 2,000,000 cars, manufactured goods and miscellaneous over 3,000,000 cars, or both about 19 per cent compared with the five year average, 1920-24. This reflects improved service of great value to the public.

It is also well known that passenger traffic is declining without corresponding reductions in train service, the consumption of coal going on regardless.

As an accounting officer as well as a railroad man, I am interested in the net dollar and when thinking of the net I picture that vast mountain of coal burned each year which, talk as we please, is being used with a great deal of accompanying waste.

General News Department

The midsummer meeting of the Southern Pine Association will be help at Memphis, Tenn., on July 22.

The Interstate Commerce Commission has issued a questionnaire to the railroads calling for detailed information, to be furnished by November 1, in connection with its investigation of car hire settlements between railroads.

The Gulf, Mobile & Northern has applied to the Interstate Commerce Commission for a certificate authorizing it to engage in transportation between Jackson, Tenn., and Paducah, Ky., by means of a trackage arrangement with the Nashville, Chattanooga & St. Louis.

The seventy-fifth anniversary of the Missouri Pacific lines will be celebrated at St. Louis, Mo., on Saturday, July 10, when the presentation of "Service; a Pageant of Progress" at the stadium of Washington University will be followed at 11:30 p.m. by a birthday banquet at the Chase hotel.

The Chicago & Eastern Illinois has been granted an additional extension of time, to October 18, by the Interstate Commerce Commission, in which to complete the automatic train-control installation required by the commission's second order (January 14, 1924). The commission has also modified its first order (June 13, 1922) to authorize the Boston & Maine to make its installation between the East Deerfield, Mass., and West Cambridge, Mass., in lieu of the installation required between Boston and Greenfield, Mass.

The average cost of coal used as fuel for road locomotives in freight and passenger train service and charged to operating expenses was $2.64 per ton in the first four months of this year, according to the Interstate Commerce Commission's monthly bulletin of railroad fuel statistics. This compares with $2.81 in the corresponding period of last year. The cost of fuel oil averaged 2.9 cents per gallon, as compared with 3.12 cents last year. The total cost of coal and fuel oil for the four months was $110,536,495, as compared with $112,693,960 last year. For April the average cost of coal was $2.65 and the average cost of oil was 2.92 cents.

New York Railroad Club Outing

The New York Railroad Club will hold its annual outing on July 8 at Travers Island (Pelham Manor Station), N. Y. There will be a golf tournament at the Winged Foot Golf Club, Mamaroneck, N. Y., at 9:30 a. m. for those interested and the club's special train for Pelham Manor will leave Grand Central Station at 12 noon (daylight saving time).

Events on the program include a luncheon at the New York Athletic Club house, on Travers Island, a baseball game, tennis tournament, quoits, track meet, swimming and dinner.

Senator Smith May Tell How He Voted

Senator E. D. Smith of South Carolina was authorized by "unanimous consent" of the Senate on June 26 to tell his constituents, for campaign purposes, how he voted in executive session on the confirmation of the appointment of Thomas F. Woodlock to the Interstate Commerce Commission. The request for such consent was made by his colleague, Senator Blease, who said that Senator Smith, in his campaign for re-election to the Senate, was being unfairly accused regarding his vote in a "case the Senate knows all about, involving old man Taylor's nomination." Neither senator bothered to announce in Washington how Senator Smith voted but it is understood that he desired to refute a campaign statement to the effect that he had participated in a "deal" by consenting to the nomination of Mr. Woodlock after R. V. Taylor, of Alabama, had been put on the commission as a man from the South.

Twenty-Fifth Anniversary of Car Foremen's Association

The meeting of the Chief Interchange Car Inspectors' and Car Foremen's Association of America, to be held at the Hotel Sherman, Chicago, September 21, 22 and 23, will be the twenty-fifth anniversary of the association, and plans are being made by the executive committee to make it the largest ever held. Many prominent speakers will be on the program, and a special souvenir booklet, giving a complete record of the association from its inception in 1901 to date, with a complete list of the membership, will be printed for the occasion.

Railway Development Association Meets

Problems relating to land settlement, colonization, industrial surveys, the development of territory adjacent to railways and agriculture were discussed at the eighteenth annual meeting of the American Railway Development Association, which was held at Vancouver, B. C., on June 23-25. The meeting was attended by representatives of 64 railroads on the North American continent and one delegate from South Africa.

Officers elected for the ensuing year were: President, W. H. Hill, general agricultural agent of the New York Central, and first vice-president, A. L. Moorshead, industrial engineer of the Erie. The secretary-treasurer and second vice-president will be elected at the December meeting in Chicago. Detroit, Mich., was chosen as the next convention city.

C. P. R. May Earnings

Net operating revenue of the Canadian Pacific for May this year was $2,448,876, as compared with $908,913 in the same month last year, being the best showing for May since 1921.

Following are the gross earnings, operating expenses and net for the month of May and for the first five months of 1926, with comparisons:

	1926	1925	Inc.
May:			
Gross	$15,492,758	$12,467,612	$3,025,145
Exp.	13,043,881	11,558,698	1,485,183
Net	$2,448,876	$908,913	$1,539,962
Five months:			
Gross	$69,693,817	$61,691,172	$8,002,645
Exp.	58,564,234	55,477,977	3,086,257
Net	$11,129,583	$6,213,195	$4,916,388

Railroad Bills in Congress

Senator Bruce, of Maryland, has introduced in the Senate a bill, S.4499, to amend the first sentence of paragraph 4 of section 20a of the interstate commerce act, relating to the issuance of securities, to provide that every application for authority to issue securities shall be made in such form and contain such matters as the Interstate Commerce Commission may prescribe and shall contain "a detailed statement of the financial plan under which securities are to be issued (including the price at which it is proposed to sell such securities) or the obligation or liability is to be assumed, and, in the event that the financial plan provides for the sale of any of such securities for the carrier through any banker, broker, or other agent or agency, then an itemized account of all costs, charges and fees paid or to be paid by the carrier in respect thereof to such banker, broker agent or agency, and, in the event that the financial plan provides for the sale of any of such securities by the carrier to any banker, broker or other person engaged in selling securities, then the difference between the price at which the securities will be so sold by the carrier and the price at which the securities so sold are proposed to be offered for sale by such banker, broker or other person."

Representative Allgood of Alabama, has introduced H. R.

12953, to provide for appointments to the Interstate Commerce Commission on a regional basis. It is identical with the Smith bill, S. 2808, which is now on the Senate calendar.

C. N. R. Earnings in May

An increase of over 706 per cent is shown in the net earnings of the Canadian National for the month of May, as compared with the same month last year. The net earnings for May, 1926, totalled $2,826,425, while the total for the five months of this year is $8,740,860, an increase of over 209 per cent over the same period last year.

The summary follows:

May:	1926	1925	Increase
Gross	$22,183,304	$18,245,738	$3,937,566
Oper. exp.	18,956,938	17,845,798	1,111,140
Net	$3,226,365	$399,939	$2,826,425
Oper. ratio	85.46 p.c.	97.81 p.c.	
Five months ending May:			
Gross	$98,685,109	$87,339,081	$11,346,028
Oper. exp.	85,769,526	83,164,359	2,605,167
Net	$12,915,582	$4,174,721	$8,740,860
Oper. ratio	86.91 p.c.	95.22 p.c.	

Signal Section Meeting at Los Angeles

A. H. McKeen, president, and H. S. Balliet, secretary, of the Signal Section of the American Railway Association, announce the 19th meeting of the Section, to be held at the Ambassador Hotel, Los Angeles, Cal., on Tuesday, Wednesday and Thursday, September 7, 8 and 9. Members are requested to make reservations for rooms direct with the hotel management. Room with bath, one person, seven dollars a day; two persons (two beds) $4.50 each; three persons (three beds) $4.00 each.

A special train will leave Chicago by the Chicago & North Western on Friday, September 3, at 9 p. m., to run over the Union Pacific. Reservations for accommodations on this train are to be made with the general agent of the North Western, 148 South Clark street, Chicago.

Medal of Honor Conferred

Upon recommendation of the Interstate Commerce Commission, the President has awarded a medal of honor to C. M. Giblin, of New Orleans, La., who, on September 29, 1925, at great risk to himself, saved the life of a woman at the crossing of the Illinois Central at New Orleans, where Jackson avenue crosses four parallel tracks of the Illinois Central and the New Orleans Public Belt. Mrs. Jennie Wiedman, a woman about 50 years of age, started across the four tracks, but became confused and was unaware of the approach of a train on the track upon which she had to stop for a moment. Switchman C. M. Giblin, an employee of the Illinois Central, riding on the foot-board of a locomotive tender, jumped from the foot-board and ran ahead of his train diagonally across the tracks, and pushed the woman to one side; both of them fell to the outside of the track just as the wheels of the locomotive tender passed them. Mrs. Wiedman suffered considerable shock from the fall, but Switchman Giblin was uninjured. This is the twenty-fifth medal of this character which has been awarded since the enactment of the Medal of Honor Act in 1905.

New Equipment

Class I railroads during the first five months this year installed in service 933 locomotives, according to reports compiled by the Car Service Division of the American Railway Association. This was an increase of 185 over the number installed during the corresponding period last year and an increase of 22 over the corresponding period in 1924. It was, however, a decrease of 764 compared with the corresponding period in 1923.

Locomotives on order on June 1 this year totaled 612, compared with 329 on the same date last year and 447 on the same date in 1924. On June 1, 1923, however, 2,041 locomotives were on order.

During the first five months the railroads also placed in service 42,300 freight cars, of which 10,320 were installed during May. Of the total 20,673 were box cars; 16,628 were coal cars and 2,666 were refrigerator cars.

The total number installed from January 1 to May 31 this year, was a decrease, however, of 28,649 as compared with the number placed in service during the corresponding period last year and a decrease of 16,255 under the number placed in service in 1924.

The railroads on June 1 this year had 44,628 freight cars on order, an increase of 8,113 over the number on order on the same date last year but a decrease of 16,628 under the number on order on June 1, 1924.

These figures as to freight cars and locomotives include new and leased equipment.

Valuation for Recapture Purposes

The Interstate Commerce Commission has issued orders permitting F. G. Dorety, general solicitor of the Great Northern, and Fred H. Wood, to intervene in the case involving the ascertainment of excess income of the St. Louis & O'Fallon and the Manufacturers Railway, which has been set for argument before the entire commission on July 1 and 2; and to file briefs and be heard on oral argument, as amici curiae. Permission to intervene had previously been given William G. Brantley and Leslie Craven, of counsel for the President's Conference Committee on Federal Valuation; John E. Benton, general solicitor for the National Association of Railway & Utilities Commissioners, and Donald R. Richberg, counsel for the National Conference on American Railroad Valuation.

Mr. Dorety has filed a brief opposing the report in this case by Examiner J. Paul Kelley, which proposed a method of valuation for recapture purposes by "less thorough processes" than those of section 19a, saying that "the language of the report is economically unsound and entirely unworthy of a place in a report of this commission and that it should be stricken." He particularly criticized Mr. Kelley's contention that capital could be attracted to the railroad business and that every dollar invested in the business would receive a fair return, if valuation for rate-making purposes were based on the "reasonable necessary investment." To attract new capital, he said, requires a rate base at all times equal to present reproduction costs, with proper adjustment for depreciation and appreciation. He also said that, while the examiner had "considered" the decisions of the Supreme Court as to principles of valuation, he had done so only to ignore them.

The P. R. R. Women's Aid

The latest pamphlet received from the Pennsylvania, made up of a number of reports covering divers districts, divisions and regions, contains the names of a dozen or more officers—general superintendents, superintendents, department directors and others—which are quite unfamiliar. For example: Jeannette D. Grove, Agnes Custer, Mabel Parkes, Jessica Grimshaw, Maude L. Wood, Muriel J. Davis, Helen D. Wardrop, Elizabeth R. Johnson, Frances R. Carson, Florence Hackenberg, Sarah M. Krick, Josephine C. Whiter, Angie Latimer Lee and Arimina R. Atterbury. These women are leaders in the Pennsylvania Women's Aid; and they are wives or daughters of operating officers of the road.

The Women's Aid has now been in existence since 1920 and this pamphlet is its sixth annual report. This is an association of wives and daughters of officers and employees of the road, high and low, rich and poor, organized, like the auxiliary of a church, to enable the more prosperous to give friendly aid to the less prosperous.

The summary for 1925 shows a total membership of 207,320, which is more than the total number of employees of the road in the same territory. The "Aid" membership consists not only of wives of officers and employees but also of women railroad employees.

The cash on hand at the end of the year $116,346; and, in addition to this, the Aid now holds $14,100 turned over to it by the committee which collected money during the Great War to send tobacco to Pennsylvania employees in the army.

Examples of the activities of the Aid throughout Pennsylvania territory may be seen from the following extract from the report of Mrs. H. M. Carson, for the Central Pennsylvania Division:

"On the Sunbury Division, coal was furnished, rent paid, clothing purchased, and applications registered in Girard College and the John Edgar Thomson Schools for children whose

fathers were killed in the service of the company. A unique feature of the year's work was the financial assistance rendered a paralyzed brakeman in the purchase of a motor truck from which he sells produce. The Schuylkill Division specialized, in 1925, in making monthly allowances to three disabled employees and their families, and to finance this feature of the work a number of luncheons were served to the Kiwanis Club of Pottsville, a Sauer Kraut Supper to Mt. Carbon Shop employees, and holding rummage, cake, and gift sales. A most enjoyable Christmas party was held at Mt. Carbon for the children, a large portion of the expense of this function being furnished by the employees of the shops."

Erie Requests Extension in Train Control Time Limit

The Erie, in a petition presented to the Interstate Commerce Commission on June 22, requests extension of time to the end of this year for the completion of the installation of automatic train control on its Delaware division, and the indefinite suspension of the commission's second order which calls for the installation of automatic stops on a second division of the road. The petition is supported by a statement to the effect that notwithstanding diligent prosecution of the work by the railroad company, and urgent requests to the manufacturer, the General Railway Signal Company, material has not been delivered with necessary promptness; and material needed from other manufacturers has been subject to delay because the road, seeing the comments of the commission on the tests of similar devices on other roads, concluded that some parts of the material ought to be made of more substantial type; and changes in the specifications were actually made on March 16, 1926. Further, with the best efforts of the road, it will be impossible to complete the Delaware division before December 31, next. The installing of apparatus on the locomotives has been divided between three shops, in order to hasten the work.

Uniformity with automatic train control apparatus on other roads is deemed by the Erie particularly important, as the locomotives of four or five other roads use parts of the Erie tracks. Again, the Erie has the heaviest train loading of any railroad in the country having equivalent car loading, and therefore is particularly interested in a satisfactory split-reduction application of the air brakes on long freight trains; and its experiments have been expressly directed to this end, but have not yet disclosed an entirely satisfactory device.

Considerable and important structural changes are now taking place in devices of the design selected by Erie. These changes are such as the elimination of ballast lamps, the reduction in the number of relays on locomotives from three to one, the modification of the design in the headlight generator to eliminate possibility of grounds which might result in false clear indication because of these grounds, the modification of the receiver so as to increase the air gap without interfering with operating efficiency, and the modification of the standard wiring on locomotives so as to eliminate possibility of grounds both in the train control circuit and in the lighting circuit. Therefore, it is submitted that the Delaware division should be finished before beginning on a second division.

The company needs to install automatic block signals between Cuba Junction and Meadville, Pa., 133 miles, in order to complete the automatic system between New York and Chicago; and if relieved from the additional burden of installing automatic train control on a second division, it is prepared to proceed promptly and diligently with the installation of these automatic block signals.

The commission has also announced an extension of time under its second order for the St. Louis-San Francisco to December 31 and for the Chicago, Indianapolis & Louisville to January 1.

Final Report on C. N. R.

In the final report of the Committee on National Railways and Shipping submitted to the House of Commons at Ottawa last week by its chairman, William D. Euler, an Ontario Liberal, are the following words relative to the showing of the Canadian National:

"Your committee has also had under consideration item 372 of the estimates which provides for loans or guarantees of $31,000,000 to the Canadian National Railways for the fiscal year ending March 31, 1927, and has in the course of its deliberations examined the operating statements of the company for the year ending December 31, 1925.

"The committee notes that by reason of an improvement in the operating results for the fiscal year ending March 31, 1926, over that contemplated when the estimate of $50,000,000 for last year was under consideration, the financial requirements of the railway were reduced from $50,000,000 to $25,722,101.80 and that such requirements, with the exception of $10,000,000 advanced by the government in cash during the year, were met by the railway partly through a reduction in materials and supplies on hand and partly from working capital and by improved operating methods, resulting in marked economies.

"Considerable evidence was adduced relating to the activities of the Canadian National Railways in regard to immigration and colonization and your committee is pleased to note that during the past year an arrangement has been effected between the government and the Canadian National Railways in conjunction with the Canadian Pacific Railway to eliminate overlapping in immigration activities.

"Your committee calls attention to the fact that expenditures on equipment during the past year have continued at a moderate figure and to the statement of the president that only moderate outlays for freight and passenger equipment are expected for some time.

"Your committee also draws attention to the fact that during the past year the company has been carefully investigating the growing competition of the motor bus and the motor truck and expects shortly to develop some means of effectively meeting the conditions arising in connection with this competition.

"Your committee in its previous report referred to the question of taxation and is pleased to note from the evidence adduced that considerable progress has been made towards the development of a basis of taxation in conjunction with the various provincial governments throughout the Dominion which will remove the discrimination referred to in the committee's final report last year.

"From the evidence given, your committee is of the opinion that the amount of $31,000,000 is necessary for the purposes of the company during the coming year and should be passed by the House.

"Your committee notes with satisfaction that the Canadian National Railways continue to hold the confidence and goodwill of the public through the excellence of the services rendered and the courtesy extended to patrons."

Meetings and Conventions

The following list gives name of secretaries, dates of next or regular meetings and places of meetings.

AIR BRAKE ASSOCIATION.—F. M. Nellis, 165 Broadway, New York City. Exhibited by Air Brake Appliance Association.

AIR BRAKE APPLIANCE ASSOCIATION.—John B. Wright, Westinghouse Air Brake Co., Pittsburgh, Pa. Meeting with Air Brake Association.

AMERICAN ASSOCIATION OF ENGINEERS.—M. E. McIver, 63 E. Adams St., Chicago.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—J. D. Gowan, 112 W. Adams St., Chicago.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. L. Duncan, 332 S. Michigan Ave., Chicago.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—W. C. Hope, C. R. R. of N. J., 143 Liberty St., New York.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—J. Rothschild, Room 400, Union Station, St. Louis, Mo. Annual convention, 1927, San Francisco.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—T. E. Welsh, Chicago, North Shore & Milwaukee, Highwood, Ill. Next convention, 1926, Baltimore, Md.

AMERICAN ELECTRIC RAILWAY ASSOCIATION.—J. W. Welsh, 292 Madison Ave., New York. Annual convention, October 4-8, 1926, Cleveland, Ohio.

AMERICAN RAILROAD MASTER TINNERS', COPPERSMITHS' AND PIPE FITTERS' ASSOCIATION.—C. Borcherdt, 202 North Hamilton Ave., Chicago, Ill.

AMERICAN RAILWAY ASSOCIATION.—H. J. Forster, 30 Vesey St., New York, N. Y.

Division I.—Operating—J. C. Caviston, 30 Vesey St., New York. Freight Station Section (including former activities of American Association of Freight Agents).—R. O. Wells, Freight Agent, Illinois Central Railroad, Chicago, Ill.

Medical and Surgical Section.—J. C. Caviston, 30 Vesey St., New York.

Protective Section (including former activities of the American Railway Chief Special Agents and Chiefs of Police Association.)—J. C. Caviston, 30 Vesey St., New York, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York.

Telegraph and Telephone Section (including former activities of the Association of Railroad Telegraph Superintendents).—W. A. Fairbanks, 30 Vesey St., New York. Next meeting, Sept. 21-23, 1926, Swampscott, Mass.

Division II.—Transportation (including former activities of the

Association of Transportation and Car Accounting Officers).—G. W. Covert, 431 South Dearborn St., Chicago, Ill.

Division III.—Traffic, J. Gottschalk, 143 Liberty St., New York.

Division IV.—Engineering, E. H. Fritch, 431 South Dearborn St., Chicago, Ill. Annual convention, March 8-10, 1927, Chicago. Exhibit by National Railway Appliances Association, March 7-10.

Construction and Maintenance Section.—E. H. Fritch.

Electrical Section.—E. H. Fritch.

Signal Section (including former activities of the Railway Signal Association).—H. S. Balliet, 30 Vesey St., New York, N. Y. Next meeting, September 7-9, Hotel Ambassador, Los Angeles, Cal.

Division V.—Mechanical (including former activities of the Master Car Builders' Association and the American Railway Master Mechanics' Association).—V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill. Exhibit by Railway Supply Manufacturers' Association.

Equipment Painting Section (including former activities of the Master Car and Locomotive Painters' Association).—V. R. Hawthorne, 431 South Dearborn St., Chicago, Ill. Next meeting, September 14-16, 1926. Book-Cadillac Hotel, Detroit, Mich.

Division VI.—Purchases and Stores (including former activities of the Railway Storekeepers' Association).—W. J. Farrell, 30 Vesey St., New York, N. Y. Exhibit by Railway Supply Manufacturers' Association.

Division VII.—Freight Claims (including former activities of the Freight Claim Association).—Lewis Pilcher, 431 South Dearborn St., Chicago, Ill.

Car Service Division.—C. A. Buch, 17th and H Sts., N. W., Washington, D. C.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—C. A. Lichty. C. & N. W. Ry. 319 N. Waller Ave., Chicago. Annual convention, October 12-14, 1926, Richmond, Va. Exhibit by Bridge and Building Supply Men's Association.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—H. W. Byerly, General Immigration Agent, Northern Pacific, St. Paul, Minn.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—(Works in co-operation with the American Railway Association Division IV.) E. H. Fritch, 431 South Dearborn St., Chicago. Next annual convention, March 8-10, 1927, Chicago. Exhibit by National Railway Appliances Association, March 7-10.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.—(See American Railway Association, Division V.)

AMERICAL RAILWAY TOOL FOREMEN'S ASSOCIATION.—G. G. Macina, C. M. & St. P. Ry., 11402 Calumet Ave., Chicago. Annual convention, September 1-3, 1926, Hotel Sherman, Chicago. Exhibit by Supply Association of the American Railway Tool Foremen's Association.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—T. F. Whittelsey, 1319-21 F St., N. W., Washington, D. C.

AMERICAN SOCIETY FOR STEEL TREATING.—W. H. Eisenman, 4600 Prospect Ave., Cleveland, Ohio.

AMERICAN SOCIETY FOR TESTING MATERIALS.—C. L. Warwick, 1315 Spruce St., Philadelphia, Pa.

AMERICAN SOCIETY OF CIVIL ENGINEERS.—George T. Seabury, 29 W. 39th St., New York. Regular meetings 1st and 3rd Wednesday in month, except July and August, 33 W. 39th St., New York.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—Calvin W. Rice, 29 W. 39th St., New York. Railroad Division, Marion B. Richardson, Associate Mechanical Editor, *Railway Age*, 30 Church St., New York.

AMERICAN TRAIN DISPATCHERS' ASSOCIATION.—C. L. Darling, 10 East Huron St., Chicago, Ill. Biennial convention, July 18, 1927.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—E. J. Stocking, 111 West Washington St., Chicago. Annual meeting, January 25-27, 1927, Nashville, Tenn.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—H. D. Morris, District Claim Agent, Northern Pacific Ry., St. Paul, Minn. Annual convention, 1927, New Orleans, La.

ASSOCIATION OF RAILWAY ELECTRICAL ENGINEERS.—Jos. A. Andreucetti, C. & N. W., Room 411, C. & N. W. Station, Chicago. Annual meeting, October 27-30, 1926, Chicago. Exhibit by Railway Electrical Supply Manufacturers' Association.

ASSOCIATION OF RAILWAY EXECUTIVES.—Stanley J. Strong, 17th and H Sts., N. W., Washington, D. C.

ASSOCIATION OF RAILWAY SUPPLY MEN.—S. A. Witt, Detroit Lubricator Co., Chicago. Meeting with International Railway General Foremen's Association, September 7-10, Chicago.

ASSOCIATION OF RAILWAY TELEGRAPH SUPERINTENDENTS.—(See American Railway Association, Division I.)

ASSOCIATION OF TRANSPORTATION AND CAR ACCOUNTING OFFICERS.—(See American Railway Association, Division II.)

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIATION.—Fred M. Condit, Fairbanks, Morse & Co., Chicago. Meeting with American Railway Bridge and Building Association, October 12-14, Richmond, Va.

CANADIAN RAILWAY CLUB.—C. R. Crock, 129 Charron St., Montreal, Que.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Aaron Kline, 626 North Pine Ave., Chicago. Regular meetings, 2nd Monday in month, except June, July and August, Great Northern Hotel, Chicago.

CAR FOREMEN'S ASSOCIATION OF LOS ANGELES.—J. W. Krause, 514 East Eighth St., Los Angeles, Calif. Regular meetings, second Friday of each month, 514 East Eighth St., Los Angeles.

CAR FOREMEN'S ASSOCIATION OF ST. LOUIS, MO.—R. E. Giger, 721 North 23rd St., East St. Louis, Ill. Meetings, first Tuesday in month at the American Hotel Annex, St. Louis.

CENTRAL RAILWAY CLUB.—Harry D. Vought, 26 Cortlandt St., New York. Regular meetings, 2nd Thursday each month, except June, July, August, Hotel Statler, Buffalo, N. Y.

CHICAGO CLAIM CONFERENCE. Personal Injury Section.—F. L. Johnson, Chicago & Alton R. R., 340 Harrison St., Chicago. Meets 12:30 p. m., first Monday each month, Sherman Hotel, Chicago.

CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S ASSOCIATION.—A. S. Sternberg, Belt Ry. of Chicago, Polk and Dearborn Sts., Chicago. Next convention, September 21-23, Hotel Sherman, Chicago.

CHIEF INTERCHANGE CAR INSPECTORS' AND CAR FOREMEN'S SUPPLY MEN'S ASSOCIATION.—Bradley S. Johnson, W. H. Miner, Rookery Bldg., Chicago, Ill. Meeting with Chief Interchange Car Inspectors' and Car Foremen's Association.

CINCINNATI RAILROAD CLUB.—W. C. Cooder, Union Central Bldg., Cincinnati, Ohio. Meetings, 2nd Tuesday in February, May, September and November.

CLEVELAND STEAM RAILWAY CLUB.—F. L. Frericks, 14416 Alder Ave., Cleveland, Ohio. Meetings, first Monday each month, Hotel Hollenden, Cleveland.

EASTERN RAILROAD ASSOCIATION.—E. N. Bessling, 614 F St., N. W., Washington, D. C.

FREIGHT CLAIM ASSOCIATION.—(See American Railway Association, Division VII.)

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' ASSOCIATION.—W. J. Mayer, Michigan Central R. R., Detroit, Mich. Next convention, August 17-19, 1926, Hotel Winton, Cleveland, O. Exhibit by International Railroad Master Blacksmiths' Supply Men's Association.

INTERNATIONAL RAILROAD MASTER BLACKSMITHS' SUPPLY MEN'S ASSOCIATION.—Edwin T. Jackman, 710 W. Lake St., Chicago.

INTERNATIONAL RAILWAY CONGRESS.—Office of Permanent Commission of the Association, 74 rue du Progrès, Brussels, Belgium. General secretary, P. Ghilain. Next session of the Congress, Spain, 1930.

INTERNATIONAL RAILWAY FUEL ASSOCIATION.—J. B. Hutchinson, 1809 Capitol Ave., Omaha, Neb. Annual convention, May 10, 1927, Chicago. Exhibit by International Railway Supply Men's Association.

INTERNATIONAL RAILWAY GENERAL FOREMEN'S ASSOCIATION.—Wm. Hall, 1061 W. Wabash Ave., Winona, Minn. Annual convention, September 7-10, 1926, Hotel Sherman, Chicago.

INTERNATIONAL RAILWAY SUPPLY MEN'S ASSOCIATION.—F. P. Roesch, 1942 McCormick Bldg., Chicago. Earl E. Thulin, assistant secretary, 715 Peoples Gas Bldg., Chicago. Meets with International Railway Fuel Association.

MASTER BOILER MAKER'S ASSOCIATION.—Harry D. Vought, 26 Cortlandt St., New York.

MASTER CAR AND LOCOMOTIVE PAINTERS' ASSOCIATION.—(See A. R. A., Div. V.)

MASTER CAR BUILDERS' ASSOCIATION.—(See A. R. A., Div. V.)

MOBILE TRAFFIC AND TRANSPORTATION CLUB.—T. C. Schley, 71 Conti St., Mobile, Ala. Regular dinner meetings 6 p. m., on 2nd Thursday of each month, Cawthon Vineyard, Mobile, Ala.

NATIONAL ASSOCIATION OF RAILWAY TIE PRODUCERS.—F. A. Morse, vice-president, Potosi Tie & Lumber Co., St. Louis, Mo. Next convention, 1927, Nashville, Tenn.

NATIONAL ASSOCIATION OF RAILROAD AND UTILITIES COMMISSIONERS.—James B. Walker, 49 Lafayette St., New York. Annual convention, November 9, 1926, Asheville, N. C.

NATIONAL FOREIGN TRADE COUNCIL.—O. K. Davis, 1 Hanover Square, New York.

NATIONAL HIGHWAY TRAFFIC ASSOCIATION.—Elmer Thompson, 12 East 53rd St., New York.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—C. W. Kelly, 845 South Wabash Ave., Chicago. Annual exhibition, March 7-10, 1927, at convention of American Railway Engineering Association.

NATIONAL SAFETY COUNCIL.—Steam Railroad Section: E. R. Cott, Safety Agent, Hocking Valley Ry., Columbus, Ohio.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade, Jr., 683 Atlantic Ave., Boston, Mass. Regular meetings, 2nd Tuesday in month, excepting June, July, August and September, Copley-Plaza Hotel, Boston, Mass.

NEW YORK RAILROAD CLUB.—Harry D. Vought, 26 Cortlandt St., New York. Outing at Travers Island, July 8. Regular meetings, 3rd Friday in month, except June, July and August.

PACIFIC RAILWAY CLUB.—W. S. Wollner, 64 Pine St., San Francisco, Cal. Regular meetings, 2d Thursday in month, alternately in San Francisco and Oakland.

PURCHASES AND STORES DIVISION.—(See American Railway Association, Division VI.)

RAILWAY ACCOUNTING OFFICERS ASSOCIATION.—E. R. Woodson, 1116 Woodward Building, Washington, D. C. Annual meeting, June, 1927, Denver, Colo.

RAILWAY BUSINESS ASSOCIATION.—Frank W. Noxon, 1406 Packard Bldg., Philadelphia, Pa.

RAILWAY CAR MANUFACTURERS' ASSOCIATION.—W. C. Tabbert, 61 Broadway, New York.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway, 515 Grandview Ave., Pittsburgh, Pa. Regular meetings, 4th Thursday in each month, except June, July and August, Fort Pitt Hotel, Pittsburgh, Pa.

RAILWAY DEVELOPMENT ASSOCIATION.—(See Am. Ry. Development Assn.)

RAILWAY ELECTRICAL SUPPLY MANUFACTURERS' ASSOCIATION.—Edward Wray, 9 S. Clinton St., Chicago. Annual meeting with Association of Railway Electrical Engineers, October 27-30, Chicago.

RAILWAY EQUIPMENT MANUFACTURERS' ASSOCIATION.—Joseph Sinkler, Pilot Packing Co., Peoples Gas Bldg., Chicago. Meeting with Traveling Engineers' Association.

RAILWAY FIRE PROTECTION ASSOCIATION.—R. R. Hackett, Baltimore & Ohio R. R., Baltimore, Md. Annual meeting, October 12, 1926.

RAILWAY REAL ESTATE ASSOCIATION.—C. C. Marlor, Room 1243, Transportation Building, Chicago.

RAILWAY SIGNAL ASSOCIATION.—(See A. R. A., Division IV., Signal Section.)

RAILWAY STOREKEEPERS' ASSOCIATION.—(See A. R. A., Division VI.)

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—J. D. Conway, 1841 Oliver Bldg., Pittsburgh, Pa. Meets with Mechanical Division and Purchases and Stores Division, A. R. A.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE ASSOCIATION.—G. A. Nelson, 30 Church St., New York. Meets with Telegraph and Telephone Section of A. R. A., Division I, September 21-23, 1926.

RAILWAY TREASURY OFFICERS' ASSOCIATION.—L. W. Cox, Commercial Trust Bldg., Philadelphia, Pa. Next meeting, September 24-25, 1926, White Sulphur Springs, W. Va.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIATION.—T. F. Donahoe, Gen. Supvr. Road, Baltimore & Ohio, Pittsburgh, Pa. Next convention, September 21-23, 1926, Auditorium Hotel, Chicago. Exhibit by Track Supply Association.

ST. LOUIS RAILWAY CLUB.—B. W. Frauenthal, Union Station, St. Louis, Mo. Regular meetings, 2nd Friday in month, except June, July and August.

SIGNAL APPLIANCE ASSOCIATION.—F. W. Edmonds, Sunbeam Electric Manufacturing Company, New York City. Meeting with American Railway Association, Signal Section.

SOUTHEASTERN CARMEN'S INTERCHANGE ASSOCIATION.—J. E. Rubley, Southern Railway Shop, Atlanta, Ga. Meets semi-annually.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—A. T. Miller, P. O. Box 1205, Atlanta, Ga. Regular meetings, 3rd Thursday in January, March, May, July, September and November, Ansley Hotel, Atlanta.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—J. L. Carrier, Car Serv. Agent, Tenn. Cent. Ry., 319 Seventh Ave., North Nashville, Tenn. Next meeting, July 22, St. Augustine, Fla.

SUPPLY ASSOCIATION OF AMERICAN RAILWAY TOOL FOREMEN'S ASSOCIATION.—W. R. Mau, Vanadium Alloys Steel Co., Latrobe, Pa.

TRACK SUPPLY ASSOCIATION.—W. C. Kidd, Ramapo-Ajax Corporation, Hillburn, N. Y. Meets with Roadmasters' and Maintenance of Way Association, September 21-23, Chicago.

TRAVELING ENGINEERS' ASSOCIATION.—W. O. Thompson, 1177 East 98th St., Cleveland, Ohio. Annual meeting, September 14-17, 1926, Hotel Sherman, Chicago. Exhibit by Railway Equipment Manufacturers' Association.

WESTERN RAILWAY CLUB.—Bruce V. Crandall, 189 West Madison St., Chicago. Regular meetings, 3rd Monday each month, except June, July and August.

WESTERN SOCIETY OF ENGINEERS.—Edgar S. Nethercut, 1735 Monadnock Block, Chicago, Ill.

Traffic News

The New England Traffic League and other New England commercial organizations have petitioned the Interstate Commerce Commission to widen the scope of its anthracite rate investigation to embrace the rail rates applicable on ex-tidewater coal from New England ports to interior New England destinations.

The Gulf, Mobile & Northern, which extends from Mobile, Ala., northward 465 miles to Jackson, Tenn., announces that a contract has been signed with its connections for a through freight route to Chicago; the Nashville, Chattanooga & St. Louis from Jackson, Tenn., to Paducah, Ky., 144 miles, and the Chicago, Burlington & Quincy from Paducah, northward. This makes a line of about 1045 miles from Mobile to Chicago. By this route the distance from Chicago to New Orleans is about 1184 miles.

New Service on Mo. P.

"The Southerner" of the Missouri Pacific heretofore operating between Arkansas and Louisiana points to St. Louis, Mo., and Chicago has been extended to serve Texas points also, while the schedule has been changed so that 7 hr. is saved from San Antonio to St. Louis, 11 hr. from Houston to St. Louis and 4½ hr. from Houston to Chicago. The train now arrives in Chicago early the second morning, same time that it formerly arrived in St. Louis. Sleepers leave San Antonio at 8:00 p.m., Austin at 10:15 p.m., Galveston at 7.10 p.m., and Houston at 11:30 p.m., and arrive at Little Rock at 2:55 p.m., Memphis at 6:45 p.m., and St. Louis at 11:40 p.m. the following day and at Chicago at 6:45 a.m., the second morning via the Chicago & Alton or at 7:35 via the Wabash.

International Institute of Traffic

"Sigma Beta Chi," Portland, Oregon, George A. Denfeld, secretary, proposes to establish an organization with the above name, to promote, encourage and establish high professional and moral standards in the traffic and transportation profession; to hold meetings and conferences for the solution of the problems of the profession, and so forth. The institute has been incorporated under the laws of Illinois. The temporary president is Dr. Walter P. Steinhaeuser, dean of the school of commerce, Milton University, Port Deposit, Md. Among the persons named as directors are three railroad men: J. F. Baker (C. & N. W.), E. J. Murphy (Ill. Central), and G. A. Kroening (C. St. P. M. & O.).

Senate Rejects Transportation Amendments to Farm Bill

An amendment to the farm relief bill to provide for the repeal of section 15a of the interstate commerce act, which includes the rate-making rule of the transportation act, was defeated in the Senate on June 29, receiving 30 votes to 38 against it, while 28 did not vote. It was proposed by Senator Mayfield of Texas. Senator Cummins of Iowa made a speech against it, saying that while the committee on interstate commerce has held extensive hearings for four years on bills to repeal section 15a it has repeatedly declined to report in favor of such repeal, and he doubted if a single member of the Senate outside of the committee had ever read a word of the volumes of testimony taken by the committee on the subject. Referring to Senator Mayfield's speech in favor of the repeal he said: "From his discussion of the subject I did not recognize the section as I understand it to be and as everybody understands it to be who knows anything about it."

The Senate also rejected without record votes a series of amendments to the interstate commerce act proposed by Senator Harris of Georgia, one of which provided that whatever preferential freight rates may be given on any one of the basic agricultural products or any article of merchandise "shall be given and granted to every other basic agricultural product." Another would direct the Interstate Commerce Commission, as long as the Pullman surcharge remains in effect, "to credit all amounts received by the railroads from this surcharge to the reduction of rates on farm products." Another provided for a 50 per cent reduction in rates on wheat corn or cotton for export.

Better Beef Train

The Minneapolis, St. Paul & Sault Ste. Marie, the Northern Pacific and the Great Northern operated a better beef cattle special train in North Dakota and Minnesota from May 21 to June 25. The speakers and exhibits of livestock were brought together by the extension division of the department of agriculture of the University of Minnesota and by the North Dakota State College. The animals for the exhibits and demonstrations were provided by the packing industries, by the Schermerhorn farms in Mahnomen county, Minn., and the Monroe Brothers farm near Warren, Minn. The purpose of the train was to stir up interest in the raising of better beef cattle for the markets. At the close of the demonstration it was estimated that from 75,000 to 80,000 persons, mostly farmers, had attended demonstrations in the two states.

Cotton Growers Ask 20 Per cent Reduction in Freight Rates

Complaints asking the Interstate Commerce Commission to reduce freight rates on cotton throughout the United States by 20 per cent are being filed with the commission by various state co-operative association of cotton growers that have formed a central organization known as the American Cotton Growers' Exchange, with headquarters at Memphis, Tenn. While the complaints are being filed separately by the state organizations it is suggested that the commission consolidate them into one case and all the railroads are made defendants. The separate complaints filed so far are very general in their claims, confining themselves mainly to the statement that the rates are excessive, that the railroads are making too much money and that "cotton growers generally throughout the United States have been receiving an annual average income of far less than $800 per year from all their cotton production."

Motor Transport News

Boston & Maine Operating 55 Buses

With a motor coach service to the White Mountains added to the Boston-Manchester and Boston-Portland routes on July 1, the Boston & Maine Transportation Company's interstate motor coach services out of Boston for the summer season of 1926 will be completed. In all, the Boston & Maine Transportation Company will be operating 492 miles of highway service, involving the use of 55 motor coaches.

The Consolidated Coach Terminal at 36 Park Square, Boston, has been established this year for the motor coach traveling public, and all Boston & Maine motor coach lines will use that station as a terminal jointly with the motor coaches of the New England Transportation Company. The Portland and White Mountain motor coaches will also stop at the North Station, Boston, in each direction.

"Railway or highway, ride the Boston & Maine way," is the slogan used by the Boston & Maine in its newspaper advertising of these motor coach services, in connection with the establishment of improved train service on all routes.

A fire on the high bridge of the Baltimore & Ohio, across the Susquehanna river at Havre de Grace, Md., on the morning of June 22, destroyed about 500 ties, with the platform between the tracks for the whole length of the eastern span; and trains had to be diverted to the Pennsylvania, between Perryville and Baltimore, for three or four hours (1 a. m. to 4 a. m.). The floor of this bridge is about 90 ft. above the river and the Havre de Grace fire department had difficulty in raising water that distance. The ties, creasoted, were nearly new. It is supposed that coal from a locomotive fire box set the fire.

Commission and Court News

Interstate Commerce Commission

Eastern Freight Rate Investigation

The commission has issued a notice as to the future procedure in its Eastern class rate investigation stating that, as heretofore announced, a tentative report will be issued in due course and that the date for filing briefs has been fixed as November 1. Because of the fact that the record in this proceeding covers nearly 12,000 pages, the commission's rule of practice to the effect that each brief should contain an abstract of the evidence relied upon will be waived. The appearance list in this proceeding contains some 425 names, although many did not participate actively.

Mail Pay Case

The applications of the American Newspaper Publishers' Association and the American Publishers' Conference for leave to intervene in the Railway Mail Pay Case before the commission were denied by the commission in an order made public on June 25. The order, however, is without prejudice to the filing of motions to appear as *amici curiae*. The commission also vacated its order of February 24 granting leave to intervene to the Nebraska State Railway Commission, and denied the application.

The commission also on June 8 denied the applications of the Postmaster General for reconsideration of the orders of December 8, 1925, and February 25, 1926, establishing, after re-examination, increased rates of pay for the transportation of mail by certain carriers. However, by another order dated June 22 it re-opened the case on an application filed by the Postmaster General on May 5, 1925, for a re-examination as to twelve short-line railroads in the West.

Box for Explosives to Be Tested

On petition of a committee of the Institute of Makers of Explosives, the commission has issued an amendment to its regulations for the transportation of explosives by freight to permit of the experimental use of a new type of wooden box developed by the committee to be used for the shipment of high explosives. The order states that this box has passed successfully "every qualifying laboratory test showing that it has strength equal to or greater than the standard box similarly tested, which is constructed under I. C. C. specification No. 14, now used for this traffic, and is sufficiently efficient to transport the explosives without greater hazard than when in boxes of the standard type."

Carload shipments of the explosives are sought to be made in the new containers from and to a limited number of points for a limited period, during which time the containers will be kept under observation and performance reports will be made to the commission's Bureau of Explosives for the information of the public and the commission. The amendment to the regulations is made for the purpose only of the special shipments to September 1.

Revision of Midcontinent Oil Rates Prescribed

The Interstate Commerce Commission on June 30 issued its decision, written by Commissioner Cox, in the consolidated case entitled Midcontinent Oil Rates, 1925, which arises from related complaints brought by operators of petroleum refineries located in Missouri, Kansas, Oklahoma and Texas, bringing in issue all of the rates on petroleum products from the Southwest to Western Trunk Line territory and certain additional territory to the east thereof.

The commission disapproved proposals embodying changes in the oil rate groups of the mid-continent field on traffic to and beyond Kansas City and St. Louis, and found that the rates assailed on gasoline and other so-called refined oils now taking the same rates, in carloads, are as a whole not in excess of reasonable maximum rates, but that the rates are unduly prejudicial or preferential as between the various origin groups and also as between the various destination points. It prescribes a table of rates or bases of rates and differentials from and to the various groups and points and gives the railroads 120 days in which to give effect to its findings.

The commission also finds that the rates in issue on fuel oil and other low-grade petroleum products, in carloads, are, and for the future will be, unreasonable to the extent that they exceed 80 per cent of the contemporaneous rates on gasoline.

Southern Class Rates

Chairman Eastman of the Interstate Commerce Commission has issued a notice to all concerned in the Southern class rate investigation that in the progress of the work of tariff compilation in this proceeding, the southern carriers have informed the commission that they have tentatively adopted the plan for the publication of the intraterritorial rates which is set forth in the following statement which they have submitted:

The magnitude of the intraterritorial adjustment may be partially visualized when consideration is given to the fact that it is necessary to provide rates between not less than 12,000 stations with routes via 864 junctions. This develops approximately 80 million separate and distinct first class rates, and as this number cannot readily be published in one tariff to apply between, the total aggregate that must be published in tariff form is approximately 144 million rates. It is at once obvious that the publication of point to point rates in a scheme of these proportions is practically impossible. The figures could not be worked out in any reasonable length of time, or, if worked out, the necessary form and bulk of publication would be prohibitive. Plainly some method of *grouping* is necessary. Further, and of paramount importance, the plan of publication must adapt itself to the ready use of persons comparatively inexpert and be sufficiently clear both in method of construction and application that the legal rates may be readily obtained.

After the careful consideration of a number of different methods and plans the following has been tentatively adopted because it appears to meet, as far as possible and considering the volume of rates involved, the several tests mentioned:

(1) Publication of specific rates between certain key points consisting of both local and junction stations throughout the territory, grouping with these key points the smaller local stations and minor junctions.

(2) The selection of the key or base points will be based on importance or geographical location, and will divide the lines into blocks generally averaging 20 to 30 miles in length. Investigation shows that a satisfactory grouping will be obtained if a majority of all points having 2,000 population or over are selected, with the addition of other stations having between 1,000 and 2,000 population, with in some instances smaller stations where these points do not satisfactorily block or group the smaller stations.

(3) The rates between the key or base points are to be made on the prescribed mileage scale, but the rates will be published point to point in alphabetical order, and therefore the tariff will be self-indexed.

(4) The prescribed mileage scale will be applied for actual distance for single line short hauls approximately 150 miles and under.

(5) Number of tariffs. In publishing the rates under the above plan it is suggested that 9 tariffs be compiled, as follows:

(1) From Alabama key or base points to all key or base points in the South.
(2) From Georgia key or base points to all key or base points in the South.
(3) From Kentucky and Ohio River crossings key or base points to all key or base points in the South.
(4) From Tennessee key or base points to all key or base points in the South.
(5) From Mississippi and Louisiana (east of the Mississippi River) key or base points to all key or base points in the South.
(6) From South Carolina key or base points to all key or base points in the South.
(7) From North Carolina key or base points to all key or base points in the South.
(8) From Virginia key or base points to all key or base points in the South.
(9) An intraterritorial rate bases book containing an explanation of the groups and the base point rates to be applied.

It is estimated that the nine tariffs will contain between 2,500 and 3,000 pages, nor is this excessive when it is remembered that these tariffs will contain all the class rates in the South and cancel all such rates from existing common and individual line tariffs.

In another statement Mr. Eastman announced that the southern carriers have filed a petition, which has been served upon all parties to the proceeding, asking that a modification be made in the rule for the computation of distances which was prescribed in the supplementary report. Any representatives of shippers or other parties to the proceeding who desire to comment upon this request prior to action by the commission will be given an opportunity to do so by filing a statement in writing on or before July 12.

If parties who file statements in response to this notice dis-

approve of the proposal of the southern carriers, the commission would welcome constructive suggestions as to the rule for computing distances which should be adopted. "The matter is one of considerable practical difficulty," Mr. Eastman said. "The most important objection to the rule in Finding 14 of our supplementary report seems to be that it leaves considerable to the exercise of judgment. From the standpoint of the practical work of tariff compilation and the saving of time and expense a more arbitrary rule which would leave little room for controversy may be desirable. The commission hopes that this phase of the matter will be given particular consideration by those who file statements."

Furniture Rate Investigation

The Interstate Commerce Commission has issued the following notice regarding its investigation of rates on furniture:

May 10, 1926, upon its own motion, the Commission entered an order of investigation, docketed as No. 18,323 and entitled *Investigation of Rates on Furniture*, embracing within its scope all rates, classifications, rules, regulations and practices applicable to the interstate transportation of furniture between all points in the United States, and all common carriers by rail and by rail and water subject to the interstate commerce act are made parties respondent.

The order is framed in general and comprehensive terms. It embraces both carload and less-than-carload traffic, all class rates, commodity rates, classifications, exceptions to classifications, ratings, descriptions, packing and loading requirements, carload minimum weights, and all other pertinent matters affecting the transportation of furniture and the charges therefor. Questions of straight and mixed carloads and of any-quantity ratings and rates are included. It embraces all kinds and grades of furniture, whether household, office, store, church, school, theater, or otherwise, and whether of wood, metal, fibre or reed, or of other material.

The order is the result of the great diversity of tariff provisions governing the transportation of furniture in and between different rate groups, brought to the Commission's attention in various cases. It is desired to develop as fully as possible the transportation and other characteristics of the commodity, the proportion or proportions of the general transportation burden of the country, or of territories thereof, which the commodity should bear, and such other pertinent matters as may be necessary in order to bring about such uniformity or such relationships in classification and tariff particulars in the different sections of the country, and upon such rate level or levels, as shall be just, reasonable and otherwise in harmony with the act.

Presumably, a considerable amount of time will be required by the representatives of the industry to collect, digest and prepare data respecting weights and values per cubic foot and values per pound, average carloadings, volume and distribution of the traffic, liability to damage or loss, and various other pertinent matters, including the provisions of a large number of commodity tariffs, rate and other relationships as between different points or different rate territories, etc. The carriers, also, presumably will require time to make adequate preparation for presentation of the case on their part. It is to be preferred that the case be assigned for hearings only when adequate preparation has been made by all interests as far as possible, and that the hearings, once commenced, may be prosecuted to a conclusion without intervening adjournments, if practicable.

The respective interests are therefore requested to confer among and between themselves and to advise the Commission, as soon as may be, upon the following points:

1. The appropriate date and place for the initial hearing, the places at which the subsequent several hearings should be had, and the approximate amount of time to be allowed for each such hearing.
2. Whether the case can and will be presented, wholly or largely, by shipper and carrier committees, or whether assignments for hearing should make allowance for individual presentations. In this connection it is requested that the Commission be promptly advised of the names and addresses of such shipper and carrier committees, and of the representatives thereof, as may be appointed in the several territories, for the purposes of such preliminaries as it may be found desirable to arrange.
3. What special article or articles, if any, ordinarily included in the generic term "furniture" could or should properly be omitted from the investigation?
4. Any other appropriate matter.

Estimates of time to be allowed for each hearing, or for the hearings in each territory, should take into account the fact that the submission of direct evidence on both sides is to be completed as each territory is reached, with a margin of time for such rebuttal as may be necessary. Interterritorial rates, etc., will be dealt with at such hearings as shall be deemed most suitable for the purpose, to be agreed upon by the parties if possible. The program will, if necessary, include an opportunity, at a final hearing, probably at Washington, for rebuttal by any or all affected interests of such new matter as may be introduced in evidence after any particular territory or territories has or have been passed.

The interested manufacturers of and dealers in furniture, and the respondent carriers, individually and collectively, are requested to accept this announcement as calling upon them to commence seasonably and prosecute diligently the respective preparations which will enable them to present to the Commission all the facts, circumstances and conditions relating to the transportation of furniture which they believe should be considered in and for the purposes of the investigation. It is suggested that the work of preparation and presentation would be promoted by the formation of committees to guide the shippers by territorial or other groups or divisions, with resulting economy of time at the hearings and an attainment of the maximum co-ordination of efforts and results.

State Commissions

The Public Service Commission of New York has directed the railroads of the state to change their baggage allowance rule so as to restore the former allowance of $150 as the limit of value of baggage carried without charge ($75 for a child). The rule now in effect, established in 1919 during federal control of the railroads, provides a maximum allowance of $100 and $75 for each adult and child respectively.

The New York, New Haven & Hartford, with the approval of the New York State Public Service Commission, has amended its passenger tariff in New York State to provide that a passenger who has a monthly ticket and has carelessly left it at home, can pay cash fare at the regular rate and later present his commutation ticket to the agent and have him send a coupon to headquarters for the refund of the cash paid. The conductor and the passenger must both sign the cash fare slip.

The Public Service Commission of New York has closed the proceedings which it had initiated under the new grade crossing law looking to the elimination of the crossing of the Erie railroad and the Tuxedo turnpike, in Hillburn; this because both the village and the county (Rockland) declined to proceed. Hearing upon the proceedings showed that this crossing is considered one of the most dangerous in the state. The estimated cost to the village for the elimination was $58,000. This would require payments by the village exceeding the debt limit fixed by statute. The grade crossing law provides that in such a case the commission could not make an order eliminating the crossing unless the village by a vote of its residents assented, or unless the county is willing to aid. The village board notified the commission that it was unwilling to present the proposition to the voters because it was confident the proposal would be defeated.

Abolition of Grade Crossings in New York

The Public Service Commission of New York State has announced hearings on 17 proposals for the elimination of highway grade crossings as follows:

At Albany, July 19, crossing at Martindale on the New York Central.

At Buffalo, July 20, crossing in Royalton on the New York Central; in Clarence, New York Central.

At Buffalo, July 21, crossing at Angola, New York Central; crossing at Springville, B. R. & P.

At Mayville, July 22, crossing at Chautauqua, P. R. R.

At Rochester, July 23, crossing in Chili, B. R. & P.; crossing at Manchester, Lehigh Valley.

At Oneonta, August 3, crossing in Davenport, on the Ulster & Delaware; crossing in Roxbury, U. & D.; crossing in Arkville, U. & D.

At Binghamton, August 4, crossing in Windsor, Delaware & Hudson.

At Waverly, August 5, crossing in Waverly, Lehigh Valley.

At Watkins, August 6, crossing in Reading, New York Central; crossing in Watkins, P. R. R.

Court News

Cars Chained Together for Twin Loads Not Violation of Law

The federal district court for southern Texas holds that the purpose of the Safety Appliance Act is remedial, to obtain safety, rather than penal, to exact retribution. Two cars which had moved as a twin load, having their coupling attachments disconnected and being chained in rigid fashion for safety, were being returned for repairs to the initial carrier, there being a repair track of the connecting carrier much nearer the place of unloading. It is held that there was no violation of Section 2 of the act. Either the two cars joined became one car, or the fundamental purpose of Section 2 to conserve the safety of the persons engaged in coupling and uncoupling the cars was not affected, since the cars were not to be and could not be coupled or uncoupled in ordinary railroad usage.—U. S. v. I.-G. N. 9 F. (2d) 142.

Equipment and Supplies

Locomotives

THE ROYAL STATE RAILWAYS OF SIAM have ordered eight Pacific type, three-cylinder locomotives from the Baldwin Locomotive Works.

THE DELAWARE & HUDSON contemplates having one high pressure, consolidation type, experimental locomotive, built by the American Locomotive Company and may build six locomotives later in its own shops.

THE INLAND STEEL COMPANY has ordered one 60-ton, oil-electric locomotive from the American Locomotive Company, the General Electric Company and the Ingersoll-Rand Company, which companies co-operate in its manufacture.

Pennsylvania Orders Seven Electric Locomotives

The American Brown Boveri Electric Corporation has received orders for the electric equipment of seven electric locomotives from the Pennsylvania Railroad. The mechanical parts of the locomotive will be built at the Pennsylvania shops in Altoona, Pa. The electrical equipment will be built at the Camden, N. J., plant of the Brown Boveri Corporation.

The locomotives will operate either from a 600-volt, direct-current third rail, or from an 11,000-volt, alternating-current overhead trolley. They will be single cab locomotives similar in appearance to the L-5 type locomotives now in service in the New York terminal. By changing the gear ratio, the locomotives can be used for either passenger or freight service. The locomotives are designed to haul a 16-car passenger train at 75 miles an hour, or, as freight locomotives, to haul a tonnage train at 35 miles an hour. Each locomotive will have four driving motors, with a combined continuous rating of 3,640 hp. The driving wheels will be 80 in. in diameter and the load on each driving axle, 75,000 lb.

When these locomotives are placed in service, the motive power displaced will be transferred, it is understood, to the Long Island division of the Pennsylvania. Subsequently, the new locomotives are expected to be used on the main line electrification project of the Pennsylvania which is being initiated and is now under construction between Philadelphia, Pa., and Wilmington, Del., a distance of 28 miles. The new locomotives will be used individually or in multiples, according to the character of the trains to be handled.

Freight Cars

THE CRUCIBLE STEEL COMPANY is inquiring for six flat cars of 75-tons' capacity.

THE FRUIT GROWERS EXPRESS has ordered 400 underframes from the Ryan Car Company.

THE SOUTH AFRICAN RAILWAYS are inquiring through the car builders for a transformer car.

THE CITY SERVICE TANK LINE COMPANY is inquiring for five, specially insulated, class 4 tank cars, of 8,000-gal. capacity.

THE CALUMET & HECLA COPPER COMPANY has ordered 5 ore cars of 50-tons' capacity from the Pressed Steel Car Company.

THE KENDALL REFINING COMPANY, Bradford, Pa., has ordered one tank car of 10,000-gal. capacity from the General American Tank Car Corporation.

THE NATIONAL TUBE COMPANY has ordered 25 gondola car bodies from the Pressed Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* of April 24.

Passenger Cars

THE RICHMOND, FREDERICKSBURG & POTOMAC is inquiring for one dining car.

THE BALTIMORE & OHIO has ordered five gas-electric rail motor cars from the Electro-Motive Company.

THE PAULISTA RAILWAY OF BRAZIL is inquiring through the car builders for about 30 cars for passenger service.

THE ERIE has ordered 15 through line, all steel passenger coaches from the Standard Steel Car Company. Inquiry for this equipment was reported in the *Railway Age* of June 5.

THE TEMISKAMING & NORTHERN ONTARIO has ordered two 73-ft. combination passenger and baggage gas-electric cars through the Ottawa Car Company, from the J. G. Brill Company.

THE WHEELING & LAKE ERIE has ordered two 60-ft. combination passenger and mail gas-electric cars and one 60-ft. combination passenger and baggage gas-electric car from the J. G. Brill Company.

THE LOUISVILLE & NASHVILLE has ordered two additional baggage cars from the Pressed Steel Car Company. A previous order for 10 baggage cars was let to the same builder and reported in the *Railway Age* of June 5.

THE SEABOARD AIR LINE has ordered 32 express cars 60 ft. long from the Pullman Car & Manufacturing Corporation, and 15 express cars 74 ft. long from the American Car & Foundry Company. In the *Railway Age* of June 19 this company was reported as inquiring for from 30 to 40 express cars.

THE UNION PACIFIC has ordered ten gas-electric motor cars, of the 70-ft. type, arranged for passengers and baggage, from the Electro-Motive Company. The Union Pacific has also given an order to the Electro-Motive Company for a power plant equipment to convert one of the railroad's McKeen motor cars to gas-electric drive.

Machinery and Tools

THE ILLINOIS CENTRAL has ordered two car wheel borers and one axle lathe from the Niles-Bement-Pond Company.

THE CHICAGO, ROCK ISLAND & PACIFIC has ordered a 48-in. by 12-ft. planer from the Niles-Bement-Pond Company.

THE CLINCHFIELD RAILROAD, Johnson City, Tenn., has ordered a car wheel lathe from the Niles-Bement-Pond Company.

THE BALTIMORE & OHIO has ordered one Chambersburg mechanical power hammer from Manning, Maxwell & Moore, Inc.

THE NILES-BEMENT-POND COMPANY has received an order from one of the railway signal companies for a jig boring machine.

THE GULF, COLORADO & SANTA FE has ordered a 5,000-lb. Chambersburg double frame hammer from Manning, Maxwell & Moore, Inc.

THE ATLANTIC COAST LINE has ordered two 100-ton, two 15-ton and five 10-ton Shaw electric traveling cranes, and four 3-ton Shaw wall cranes from Manning, Maxwell & Moore, Inc.

THE TEXAS & PACIFIC has ordered one automatic cut-off saw, one large heavy rip saw, one hollow chisel mortiser, one 32-in. heavy duty shaper, two 2-in. double head bolt cutters, and two extra heavy duty floor grinders from Manning, Maxwell & Moore, Inc.

THE ILLINOIS CENTRAL has ordered one ½-in. National forging machine, one tool room precision lathe, one 24-in. by 10-ft. geared head lathe, one 4-in. pipe machine, two 90-in. Putnam heavy wheel lathes, two Micro cylinder grinders, one Sundstrand radius link grinder, three 100-ton Chambersburg bushing presses, and one 200-ton Chambersburg hydraulic riveter from Manning, Maxwell & Moore, Inc.

Iron and Steel

THE NORFOLK & WESTERN is inquiring for 125 tons of steel for a machine shop.

THE CINCINNATI NORTHERN has ordered 168 tons of structural steel for bridges from the McClintic-Marshall Company.

THE LOUISVILLE & NASHVILLE is inquiring for 12,000 kegs of spikes and 3,000 kegs of bolts and a quantity of splice bars.

THE GREAT NORTHERN has ordered 3,000 tons of rail from the Inland Steel Company and 7,000 tons from the Bethlehem Steel Company. The order includes 3,000 tons of track fastenings.

THE NORFOLK & WESTERN has ordered 37,500 tons of rail from the United States Steel Corporation and 16,500 from the Bethlehem Steel Company. This company also is inquiring for 17,000 kegs of spikes and 300,000 track bolts.

THE PENNSYLVANIA has ordered 150 tons of bridge steel for use at Columbus, Ohio, from the American Bridge Company. An order has also been given for 100 tons to the Fort Pitt Bridge Company and the company is now inquiring for 1,500 tons for various new bridges.

Miscellaneous

THE SOUTHERN PACIFIC will soon ask for bids for construction of three automobile ferryboats as part of its plan to spend approximately $1,720,000 to increase San Francisco Bay auto ferry facilities. The new boats will be screw-propelled with Diesel electric drive and will cost approximately $500,000 each. They will have a capacity of 80 automobiles and 500 passengers.

Signaling

THE ERIE is planning to install the automatic block system, light signals, from Salamanca, N. Y., to Cuba Junction, 30 miles, double track.

THE SEABOARD AIR LINE has ordered from the Union Switch & Signal Company four mechanical interlockings for installation at various points.

THE PENNSYLVANIA has ordered from the Union Switch & Signal Company a nine-unit electro-mechanical interlocking to be installed with a 24-lever Saxby & Farmer machine at Casey, Ill.

THE ATLANTIC COAST LINE has ordered from the Union Switch & Signal Company an electro-mechanical interlocking machine to be installed with a 24-lever Saxby & Farmer machine at Folkston, Ga.

THE SOUTHERN has contracted with the General Railway Signal Company to furnish and install apparatus for A. P. B. signaling on its line between Wolteah, Tenn., and Austell, Ga., 120 miles. The A. P. B. system will be carried through two interlocking plants.

THE NEW YORK CENTRAL has contracted with the General Railway Signal Company to furnish and install an electric interlocking at Weehawken, N. J., 52 working levers; and one at New Durham, N. J., 49 working levers. The order includes 41 switch machines, 31 color light signals, 382 relays and other material.

THE CHICAGO & NORTH WESTERN has ordered from the General Railway Signal Company, material for the installation of continuous automatic train control on the Eastern Iowa division, Clinton, Ia., to Boone, 202 miles. This installation when completed will put in operation the continuous automatic train control from Clinton to Council Bluffs, 347 miles. About 200 locomotives will be equipped.

A TOTAL of $1,945,000 for rolling stock and for the Newfoundland Government Railways has been proposed by the Minister of Finance. The government probably is also in the market for 10,000 tons of 70-lb. rails, also 4 locomotives and several steam coaches. Interested manufacturers should communicate with H. J. Russell, general manager, Newfoundland Government Railway, St. Johns, Newfoundland.

Supply Trade News

J. F. Carter has been appointed field representative of the **Southern Pine Association** at New Orleans, La., and will be assigned to trade extension and market research work.

Fay, Spoffard & Thorndike, consulting engineers, have removed their office from 200 Devonshire street to the Waterman building, 44 School street, Boston, Mass.

William H. Payne, manager of the Portland branch of the **Yates-American Machine Company,** has been elected vice-president in charge of all operations, with headquarters at Beloit, Wis.

H. C. Vickerman, formerly with the Oil Well Supply Company, has joined the sales force of the **Reading Iron Company,** Reading, Pa. Mr. Vickerman will represent the company in California, with headquarters at Los Angeles, Cal.

G. LaRue Masters, who for the past five and one half years has represented the car window equipment department of the **National Lock Washer Company,** Newark, N. J., in the east, has been placed in charge of the sales of this department for the entire United States and Canada, under the direction of J. Howard Horn, general sales manager of the company. Mr. Masters was born in Philadelphia, Pa., and was educated in the schools of East Orange, New Jersey. Previous to going with the National Lock Washer Company he was connected for 12 years with Unger Brothers, Newark, New Jersey.

G. LaRue Masters

Arthur A. Helwig, representative of the **Bradford Corporation,** with headquarters at St. Louis., Mo., has been promoted to manager of the southwestern district, with the same headquarters, to succeed **W. C. Doering,** who has been elected vice-president, with headquarters in Chicago, as reported in the *Railway Age* of May 22. **George W. Bender,** representative, with headquarters in Chicago, has been promoted to manager of the northwestern district, with headquarters at St. Paul, Minn.

B. A. Clements has been elected president of the **Rome Iron Mills, Inc.,** with office in New York, to succeed Edward Marshall Zehnder, who died on June 21. Mr. Clements was born in Indianapolis on October 3, 1877, and after attending the public schools of Centralia, Ill., he entered the service of the Illinois Central in 1891 as a messenger boy. He served in various capacities in the operating department until 1906, when he was appointed chief clerk to the operating vice-president. In 1909 he was appointed general agent, reporting to the president. The following year Mr. Clements left the service of the Illinois Central to go as western representative of the Worth Brothers Steel Company, with headquarters at Chicago. In April, 1916, Mr. Clements became vice-president of the Rome Iron Mills, Inc., and remained in this capacity until his election as president.

The Joseph Harrington Company has been organized as a subsidiary of the **Whiting Corporation,** Harvey, Ill., to market the King coal stoker. **Joseph Harrington,** the designer and inventor, has been elected president. Other officers are:

Vice-presidents, **T. S. Hammond**, president of the Whiting Corporation, and **R. H. Bourne**, vice-president and sales manager of the Whiting Corporation; and secretary-treasurer, **R. A. Pascoe**, secretary-treasurer of the Whiting Corporation. Mr. Harrington is a graduate of the Massachusetts Institute of Technology and was associated with the Green Engineering Company from 1900 to 1912. From the latter date until 1917 he was engaged as a consulting combustion engineer, and during the War he was a member of the United States Fuel Administration for Illinois in charge of the conservation of coal in the industrial power plants of the state. He has been retained by the Grindle Fuel Equipment Company, a subsidiary of the Whiting Corporation, to act as advisory engineer in connection with the application of Grindle pulverized coal equipment to steam boilers.

International Rail Manufacturers' Association Reconstituted

The European Rail Manufacturers' Association was formally reconstituted at the meeting which took place recently in London, according to a cable to the Department of Commerce from Commercial Attaché Chester Lloyd Jones, Paris. The headquarters of the association are to be in London, the secretary being William Pitt. Negotiations on the details of the commercial convention, particularly as affects colonial markets, will be continued.

Obituary

Edward Marshall Zehnder, president of the Rome Iron Mills, Inc., and president of the Scranton Bolt & Nut Company, died at his home in Scranton, Pa., on June 21. Mr. Zehnder was in his sixtieth year.

Trade Publications

MODULATING VALVE.—A four-page, illustrated folder descriptive of the Jenkins modulating radiator valve for one or two-pipe low pressure steam, vacuum and vapor heating has been issued by Jenkins Bros., 80 White street, New York.

STRENGTH OF SOUTHERN PINE.—In an eight-page bulletin issued by the Southern Pine Association, facts are presented concerning the strength of Southern yellow pine. This is given in the form of tables of recommended working stresses and a general discussion pointing out the advantages of this material as a structural timber.

ALUMINUM BUS BODY.—The Aluminum Company of America, Pittsburgh, Pa., has published a pamphlet entitled, "A Revolution in Transportation," which describes the eight-wheel, gas-electric highway coach developed by the Versare Corporation, New York, the Westinghouse Electric & Manufacturing Co., East Pittsburgh, Pa., and the Aluminum Company of America, in which an extensive use of aluminum is made.

M-R-C THRUST BEARINGS.—Dimensions, load ratings and price lists covering M-R-C thrust bearings are given in a 36-page catalog which has been issued by the Marlin-Rockwell Corporation, Jamestown, N. Y. These bearings are made single-acting or double acting to compensate for end thrust loads acting in either one or two directions. They are designed to support end thrust loads only; that is, loads acting parallel to the axis of rotation.

MALLEABLE IRON.—The American Malleable Castings Association, Union Trust building, Cleveland, Ohio, has issued a 30-page booklet clearly explaining the origin, development, valuable properties, method of manufacture and uses of certified malleable iron. It has been prepared particularly for the executive interested in costs and profits; the engineer designer interested in efficiency and performance, and the student interested in the many forms of iron and its uses.

ORTON CRANES.—The Orton Crane & Shovel Co., Chicago, formerly the Orton & Steinbrenner, has just issued a bulletin, No. 41, dealing specifically with the Orton, Models "T" and "E" Flexible Tread Convertible Cranes. As the particular advantage of these cranes is their flexibility and range of service, much space is given to these subjects, supplemented effectively by many illustrations. The bulletin also presents in some detail the construction and operating features of these cranes.

LUMNITE CEMENT.—The Atlas Lumnite Cement Company, New York, has recently issued a four-page bulletin featuring the use of its product, Lumnite cement, in the construction of the large concrete supporting cylinders in the U. S. Navy pier at the Puget Sound navy yard, Bremerton, Wash. The bulletin contains also a comprehensive statement of the character and qualities of Lumnite cement and the results of several tests illustrating the compressive and tensile strength of concrete and mortar made with this material.

AUTOMATIC PUMPING.—Barrett, Haentjens & Co., Hazleton, Pa., have recently issued a new 24-page bulletin bearing this title, which deals specifically with the automatic operation of centrifugal pumps. While this company has issued other bulletins dealing with this subject, the new bulletin, 400a, differs from them in that it treats the subject entirely from a technical standpoint. This bulletin also describes several new methods of making centrifugal pumps automatic in operation. The substance of the bulletin is taken from a paper by Otto Haentjens and W. A. Cather, read before the Lehigh Valley section of the American Institute of Electrical Engineers at Wilkes-Barre, Pa., on March 26.

BLAW-KNOX INUNDATION SYSTEM.—The second edition of the Blaw-Knox inundation book has been issued recently by the Blaw-Knox Company, Pittsburgh, Pa. This book, which has been revised and enlarged, is a complete treatise on the subject of inundation as applied to the making of concrete, discussing the theory of inundation, its action and many interesting experiments where this principle has been employed. The book also describes the Blaw-Knox inundation system, which is a complete field proportioning machine designed as a means of obtaining a uniform concrete through the control of the water content, without complicated formulæ or computation and without the necessity of making field tests.

LOCOMOTIVE FEEDWATER HEATER.—Graphical charts for the computation of heat recovery and exhaust steam condensed and returned to the boiler with open-type feedwater heater operation are contained in the attractive 28-page bulletin, No. BK-1607-D, which has just been issued by the Worthington Pump & Machinery Corporation, 115 Broadway, New York. Following an outline of the advantages and economies to be gained through the use of the open-type heater, the construction, application and operation of the Type BL feedwater heater are described, the course of steam and water through the equipment being shown in a colored diagrammatic view. Considerable space is devoted to locomotive photographs showing installations throughout the United States and Europe, and the technical phases of feedwater heating are dealt with to some extent in the appendices in the second half of the book.

PNEUMATIC TOOLS.—Under the title of "Pneumatic Tool Pocket List for Railway Shops," the Ingersoll-Rand Company, 11 Broadway, New York, has recently issued a catalogue listing various pneumatic tools which it manufactures that are applicable to railway uses. The catalogue section includes the usual specification data, covering drills of various types and sizes, grinders, hammers, sand rammers, and motor hoists, as well as sketches and dimensions of a large number of rivet sets, chisels, etc. The book is more than a catalogue, however, in that it contains 145 illustrations from photographs showing the use of the various tools in actual operation on railroad jobs and thereby giving considerable information as to the sizes and types of tools preferable for many different classes of work. The book is substantially bound in a leather substitute.

A SPECIAL TRAIN of the Pennsylvania made the trip from New York to Chicago in 16 hr., 55 min., leaving New York at 5:49 p.m. on June 28 and arriving in Chicago at 9:44 a.m. the following morning. This train of three cars was chartered by Mrs. Cyrus McCormick, 3d, after missing the Broadway Limited, at a cost of approximately $7,000.

Railway Construction

BALTIMORE & OHIO.—Pursuant to the removal of the locomotive terminal facilities at Garrett, Ind., to Willard, Ohio, extensive changes are being made in the engine house and shops at the latter point. Ten engine stalls will be lengthened and a larger turntable will be installed.

CAMBRIA & INDIANA.—This company has applied to the Interstate Commerce Commission for a further extension for six months of the time allowed by the commission's certificate authorizing the construction of an extension on Cambria county, Pa. Under the latest order the company is required to begin construction by July 1 and complete it by June 30, 1927.

CANADIAN PACIFIC.—This company is remodeling the power plant of its Angus shops, Montreal, by installing four Taylor stokers under the same number of 478 hp. B. & W. boilers to increase their steaming capacity. The stokers were purchased from the Affiliated Engineering Companies, Ltd., Montreal, the Canadian representatives of the American Engineering Co., of Philadelphia.

CHICAGO & ALTON.—A contract has been awarded to the W. E. Clant Company, Cedar Rapids, Iowa, for the moving of the freight house at Bloomington, Ill., to a new site and the construction of a concrete foundation for it on the new site. The freight house will be moved intact for a distance of several hundred feet. The building is a stone structure, 300 ft. long, weighing approximately 50,000 tons.

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—Bids will soon be received for the construction of an engine terminal and shops at Riverside, Ohio, near Cincinnati, reported in the *Railway Age* of April 17.

MINNESOTA WESTERN.—The Interstate Commerce Commission has authorized this company to construct an extension from its terminus at Lake Lillian, Minn., to Montevideo, covering a portion of an application filed by the company for authority to construct a 57-mile extension.

MINNESOTA WESTERN.—A contract has been awarded to Lobnitz & Davy, Olivia, Minn., for the construction of an extension from Lake Lillian, Minn., to Montevideo, a distance of approximately 50 miles.

MISSOURI PACIFIC.—A repair shop will be constructed at Hot Springs, Ark., and other improvements will be made at this point including the construction of two heating plants, two train sheds long enough to accommodate trains of 18 and 19 cars, a 50,000-gal. water tank and the installation of a large cinder conveyor. The passenger station will be remodeled also. The improvements at Hot Springs are expected to cost approximately $200,000.

NORTHERN PACIFIC.—A contract has been awarded to the Industrial Contracting Company, Minneapolis, Minn., for the construction of approximately four miles of track, three reinforced concrete and steel viaducts and for approximately 75,000 cu. yd. of excavation in connection with grade separation work in the northeast part of Minneapolis, estimated to cost approximately $100,000.

NORTHERN PACIFIC.—An annex to the express office building at Yakima, Wash., will be constructed at a cost of approximately $20,000.

OREGON SHORT LINE.—Bids are being received for the construction of 7 2/10 miles of main line from Shoshone, Idaho, to Dietrich, which will have an eastbound maximum grade of 5/10 per cent. The new line is not directly parallel to the present main line, but the latter will be retained providing double track between Shoshone and Dietrich. The project is estimated to cost approximately $600,000.

PENNSYLVANIA.—This company has awarded a contract to the T. J. Foley Company, Pittsburgh, for grading and track work for a storage yard on its South Massilon branch, Massilon, O., at an estimated cost of $60,000. A contract has been awarded to the same company for grading, masonry and track work for an eastward freight track at Holliday's Cove, W. Va.; estimated cost, $80,000. A contract has been awarded to A. Guthrie & Co., Inc., St. Paul, Minn., for grading and masonry for additional tracks in its Grogan yard, Columbus, O., and the extension of its Joyce avenue viaduct in the same city; total cost, $90,000.

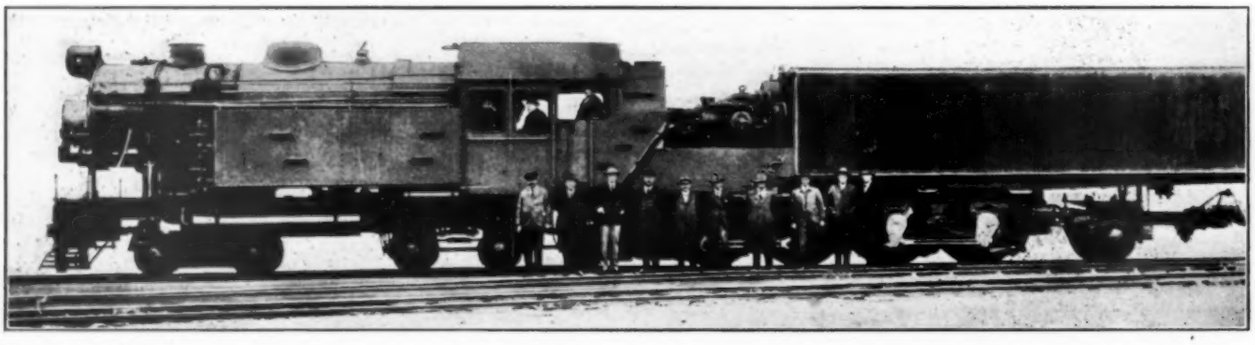
RIO GRANDE, MICOLITHIC & NORTHERN.—This company has applied to the Interstate Commerce Commission for a certificate authorizing the construction of a line of 6.4 miles from Micolithic, Hudspeth county, Tex., in a general northerly direction to a connection with the Southern Pacific. C. L. Kerr, of Houston, Tex., is president.

SEWELL VALLEY.—At the annual meeting of this company held in Rainelle, W. Va., on June 22, announcement was made of plans for a 12-mile extension from Rupert, W. Va., up Big Clear Creek, opening up virgin timber and coal lands. Announcement was also made of a proposed connection with the Sewell Valley at Nallen to be built by the Chesapeake & Ohio and the New York Central.

SOUTHERN.—This company has awarded to Dwight P. Robinson & Co. a contract for the design and construction at Chattanooga, Tenn., of a complete locomotive terminal consisting of reinforced concrete roundhouse, machine shop, boiler, smith and tank shop, wash and locker buildings, storehouse, office and oil house, power house, necessary grading and miscellaneous yard structures.

SOUTHERN PACIFIC OF MEXICO.—According to press reports, the Mexican government has granted a concession to build a line from Mexicali, Lower California, across the Colorado river, connecting with the main line in Sonora.

WABASH.—The construction of a 50 ft. by 145 ft. addition to the car shop at Decatur, Ill., which will double the car repair facilities at that point, is contemplated.



Wide World Photo

Locomotive Designed by a Swedish Engineer for the Argentine Railways for Use in Desert Territory—Special Condensing Apparatus Is Included in the Equipment to Conserve Feed Water

Railway Financial News

AKRON, CANTON & YOUNGSTOWN.—*Equipment Trust.*—The Interstate Commerce Commission has approved the issuance of $200,000 4 per cent equipment trust of 1926 certificates to be sold to the Guardian Trust Company of Cleveland at 94⅝. The equipment includes four locomotives having a total approximate cost of $252,105.

ATLANTA, BIRMINGHAM & ATLANTA.—*Protest Against Acquisition by A. C. L.*—The stockholders' protective committee, A. W. Gunter, chairman, has filed a brief with the Interstate Commerce Commission urging denial of the application of the Atlantic Coast Line for authority to acquire control of this property, on the ground that the price proposed to be paid is inadequate.

DENVER & RIO GRANDE WESTERN.—*Branch Abandonment.*—The Interstate Commerce Commission has issued a certificate authorizing this company to abandon its so-called Crestone line from Moffat to Crestone, Saguache County, Col., about 12 miles.

ERIE.—*Authorized to Pledge Bonds.*—The Interstate Commerce Commission has authorized this company to pledge $17,000,000 principal amount of its first consolidated mortgage general-lien 4 per cent bonds and certain of its general mortgage 4 per cent convertible 50-year bonds, series D, as collateral security for $10,000,000 of ten-year notes. The proceeds of the notes to be issued will be used to retire a $10,000,000 note which matured July 1, 1926.

GULF, MOBILE & NORTHERN.—*Expansion.*—Directors have authorized the execution of a contract with the Nashville, Chattanooga & St. Louis covering trackage rights over that line between Jackson, Tenn., and Paducah, Ky. John W. Platten, chairman of the board, is quoted as saying, "The extension of the freight service between Paducah, Ky., and the Ohio River contemplates a reciprocal traffic relationship with the Chicago, Burlington & Quincy." The directors have also exercised an option to purchase all of the outstanding stock of the Jackson & Eastern which connects with the Gulf, Mobile & Northern at Union, Miss., and extends to Lena, 33 miles. It is understood that this line will be rehabilitated and extended to Jackson, Miss., and that there will be established at that point reciprocal traffic arrangements with the New Orleans Great Northern which will give access to New Orleans.

HUTCHINSON & NORTHERN.—*Authorized to Operate Line.*—The Interstate Commerce Commission has authorized this company, a corporation organized in February, 1926, to operate a line in Hutchinson, Kans., 4.731 miles in length. The line was built by local citizens interested in the industrial development of East Hutchinson.

INDIANA HARBOR BELT.—*Note.*—The Interstate Commerce Commission has granted this company authority to issue a 4½ per cent promissory note of $1,500,000 to supply funds for additions and betterments.

INTERNATIONAL-GREAT NORTHERN.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority for the authentication and delivery of $9,943,000 of first mortgage 5 per cent bonds, of which it proposes to sell $6,000,000 to Kuhn, Loeb & Co., at 92¾ and to pledge the remainder as collateral security for short term notes.

MAINE CENTRAL.—*Operation of Line.*—The Interstate Commerce Commission has issued a certificate authorizing this company to operate a line of railroad from a connection with its present line at Bath, Me., over and across the Kennebec River to an intersection with another line at Woolwich, Me. The operation will be over a combination highway and railway bridge to be constructed by the State of Maine and as far as the railroad is concerned will replace a car ferry service.

MINNEAPOLIS, MARSHFIELD & SOUTHERN.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to issue $1,500,000 of 6 per cent first mortgage bonds to be sold at not less than 93.

NORFOLK & PORTSMOUTH BELT LINE.—*Note.*—The Interstate Commerce Commission has approved the issuance of a one-year 6 per cent promissory note payable to the Norfolk National Bank of Norfolk, Va., in amount of $50,000 in renewal of a promissory note for like amount maturing July 16, 1926.

READING *Company.—New York Central and Baltimore & Ohio Increase Holdings.*—The New York Central and the Baltimore & Ohio are now reported to have a majority stock interest in the Reading Company of which the two companies combined have held a working control, although without holding the majority of the stock, since 1903. The Reading Company has outstanding $27,991,200 first preferred, $41,970,650 second preferred and $69,989,100 common stock. On December 31, 1924, the Baltimore & Ohio and the New York Central each owned $6,065,000 first preferred, $14,265,000 second preferred while the Baltimore & Ohio owned $10,002,500 common and the New York Central $9,852,500 common. The amount of stock recently acquired by the two companies is said to be between six and seven million dollars.

WESTERN MARYLAND.—*Equipment Trust.*—See article on another page of this issue entitled "I. C. C. Recommends Competitive Bidding for Equipment Trusts."

Average Price of Stocks and Bonds

	June 29	Last Week	Last Year
Average price of 20 representative railway stocks	96.61	95.89	80.73
Average price of 20 representative railway bonds	96.88	96.78	90.93

Valuation Reports

The Interstate Commerce Commission has issued final or tentative valuation reports stating the final value for rate-making purposes of the property owned and used for common-carrier purposes, as of the respective valuation dates, as follows:

FINAL REPORTS		
Oakdale & Gulf	$16,530	1919
New River Holston & Western	572,500	1916
Bellefonte Central	363,570	1917
Tennessee, Alabama & Georgia	1,372,809	1917
TENTATIVE REPORTS		
Perth Amboy & Woodbridge	$1,000,000	1918
Winfield	21,365	1917
Connecting Terminal	1,125,000	1917
Delaware, Maryland & Virginia	1,700,000	1918
Elmira & Lake Ontario	4,000,000	1918

Dividends Declared

Allegheny & Western.—3 per cent, payable July 1 to holders of record June 21.

Belt Railroad & Stock Yards, Indianapolis.—Common and preferred stock, 1½ per cent, payable July 1 to holders of record June 20.

Boston & Providence.—2½ per cent, quarterly, payable July 1 to holders of record June 19.

Carolina, Clinchfield & Ohio.—Common, $.75, quarterly; convertible stamped stock, $.75, quarterly; common stamped stock, $.50, extra, all payable July 10 to holders of record June 30.

Central Railroad of New Jersey.—2 per cent, quarterly, payable July 15 to holders of record July 6, 2 per cent, extra, payable August 16 to holders of record August 6.

Delaware, Lackawanna & Western.—$1.50, quarterly, payable July 20 to holders of record July 3.

Elmira & Williamsport.—Preferred, $3.22, payable July 1 to holders of record June 19.

Lehigh & Hudson River.—2 per cent quarterly, payable June 20.

Lehigh Coal & Navigation Company.—2 per cent, quarterly, payable August 31 to holders of record July 31.

Lehigh Valley Coal Co.—$1.25, payable August 2 to holders of record July 10.

New Orleans & Northeastern.—6 per cent, annually, payable June 28 to holders of record June 21.

Norfolk & Western.—Common, 1¼ per cent, quarterly, payable September 18 to holders of record August 31. Adjustment preferred, 1 per cent, quarterly, payable August 19 to holders of record July 31.

Northern Railroad of New Hampshire.—1½ per cent, quarterly, payable July 1 to holders of record June 14.

Norwich & Worcester.—Preferred, 2 per cent, quarterly, payable July 1 to holders of record June 12.

Philadelphia & Western.—Preferred, 1¼ per cent, quarterly, payable July 15 to holders of record June 30.

Providence & Worcester.—2½ per cent, quarterly, payable June 30 to holders of record June 9.

Reading Company.—Common, $1.00, quarterly, payable August 12 to holders of record July 15. First preferred, $.50, quarterly, payable September 9 to holders of record August 23. Second preferred, $.50, quarterly, payable October 14 to holders of record September 21.

Rome & Clinton.—2¾ per cent, payable July 1 to holders of record June 22.

Wabash.—Preferred A, 1¼ per cent, quarterly, payable August 25 to holders of record July 24.

York Railways.—Common, $.75, quarterly payable July 16 to holders of record July 6. Preferred, $.62½, quarterly, payable July 30 to holders of record July 20.

Railway Officers

Executive

Henry Shearer has been appointed assistant vice-president and general manager of the Michigan Central, with headquarters at Detroit, Mich.

T. M. Schumacher, vice-president in charge of traffic of the Southern Pacific, with headquarters at Chicago, Ill., has resigned to become chairman of the executive committee of the Western Pacific.

Operating

A. W. Osborne has been appointed assistant terminal trainmaster of the Russell division of the Chesapeake & Ohio, with headquarters at Russell, Ky.

F. G. Minnick has been appointed general manager of the Pittsburgh & Lake Erie and the Lake Erie & Eastern, with headquarters at Pittsburgh, Pa. The office of the assistant general manager has been abolished.

S. U. Hooper, superintendent of the Akron division of the Baltimore & Ohio, with headquarters at Akron, Ohio, has resigned to become vice-president of the Hartman Furniture & Carpet Co., Chicago. **H. G. Kruse,** superintendent of the Chicago division, with headquarters at Garrett, Ind., has been transferred to the Akron division, succeeding Mr. Hooper. **J. E. Fahy,** superintendent at Newark, Ohio, has been transferred to Garrett, Ind., in place of Mr. Kruse.

Traffic

J. J. Hoydar, general agent of the Spokane, Portland & Seattle, with headquarters at Spokane, Wash., has been transferred to Astoria, Ore., succeeding **J. G. Hardy,** who in turn replaces Mr. Hoydar at Spokane.

E. W. Clapp, assistant freight traffic manager of the Southern Pacific, with headquarters at San Francisco, Cal., has been promoted to traffic manager of the Southern Pacific and director of traffic of the Southern Pacific lines in Texas and Louisiana, with headquarters at Chicago, succeeding **T. M. Schumacher,** who has resigned to become chairman of the executive committee of the Western Pacific.

Carl B. Brodie, division passenger agent of the Pennsylvania at New York, who has been appointed general eastern passenger agent, with the same headquarters, was born on February 1, 1882, at Pineville, Bucks county, Pa., and was educated in the public schools. He entered the service on the Pennsylvania in June, 1899, and in April, 1903, he was appointed chief clerk in the district office at Washington. In February, 1912, he became Canadian passenger agent, with headquarters at Toronto, Ont. Mr. Brodie was appointed district passenger solicitor at Newark, N. J., in February, 1917, and division passenger agent at New York, in March, 1926, which position he was holding at the time of his recent appointment as general eastern passenger agent.

C. B. Brodie

P. J. Mullaney, assistant general freight agent in charge of the Boston & Maine's off-line agencies, has been appointed general freight agent, succeeding F. F. Farrar, deceased. **William H. Skillen,** general agent at Kansas City, has been appointed assistant general freight agent, to succeed Mr. Mullaney.

Frank McD. Quinn, assistant general passenger agent of the Pennslyvania at Pittsburgh, who has been appointed general passenger agent, with the same headquarters, was born on August 14, 1878, at Philadelphia, Pa., and was educated at the University of Pennsylvania. In October, 1896, Mr. Quinn entered the service of the Pennsylvania as a clerk in the advertising department at the Broad Street Station, Philadelphia. Following a year's training in outside work in the city ticket office at Philadelphia, he was assigned as one of the tourist agents of the company in 1903, and continued in that capacity until his appointment as assistant advertising agent in February, 1916. Coincident with the reorganization of the Pennsylvania in 1920, he became chief clerk to the passenger traffic manager at Pittsburgh, and in July of the following year, his appointment as division passenger agent at Pittsburgh followed. In October, 1922, Mr. Quinn was advanced to assistant general passenger agent of the Central region, with headquarters at Pittsburgh, which position he was holding at the time of his recent appointment as general passenger agent.

Mechanical

J. A. Tschuor, master mechanic of the Akron division of the Baltimore & Ohio, with headquarters at New Castle Junction, Pa., has been transferred to the Chicago division, with headquarters at Garrett, Ind., succeeding **E. J. McSweeney,** who in turn replaces Mr. Tschuor on the Akron division. The headquarters of the master mechanic of the Akron division have been transferred from New Castle Junction to Akron, Ohio.

Engineering, Maintenance of Way and Signaling

Robert Trimble, assistant chief engineer of the Pennsylvania, with headquarters at Pittsburgh, has been appointed chief engineer of the Pennsylvania Company and the Pittsburgh, Cincinnati, Chicago & St. Louis (the Panhandle).

Purchases and Stores

G. W. Leigh, general storekeeper of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Minneapolis, Minn., has been promoted to assistant purchasing agent and general storekeeper, with the same headquarters, a newly created position.

Special

Alfred Pittman has been appointed editor of the Union Pacific Magazine, with headquarters at Omaha, Neb., succeeding **Howard Elliott,** deceased.

W. W. Mayer, real estate agent on the Pennsylvania, with headquarters at Pittsburgh, Pa., has been promoted to general real estate agent, with headquarters at Philadelphia. **J. P. Gauff,** real estate agent at Philadelphia, has been transferred to Pittsburgh in the same capacity, to succeed Mr. Mayer. **C. W. Myers,** real estate agent on the Long Island, has been appointed real esttate agent on the Pennsylvania at Philadelphia, succeeding Mr. Gauff. **Charles E. Clay,** special agent, real estate department, at, Pittsburgh, has been appointed assistant real estate agent in that city.

THE VICTORIAN GOVERNMENT RAILWAYS have installed American electric headlights on 10 of their country express locomotives, after having operated for years with no headlights at all. A modified form of light will be provided for suburban trains. This installation is expected to reduce crossing accidents which have been numerous in the past.